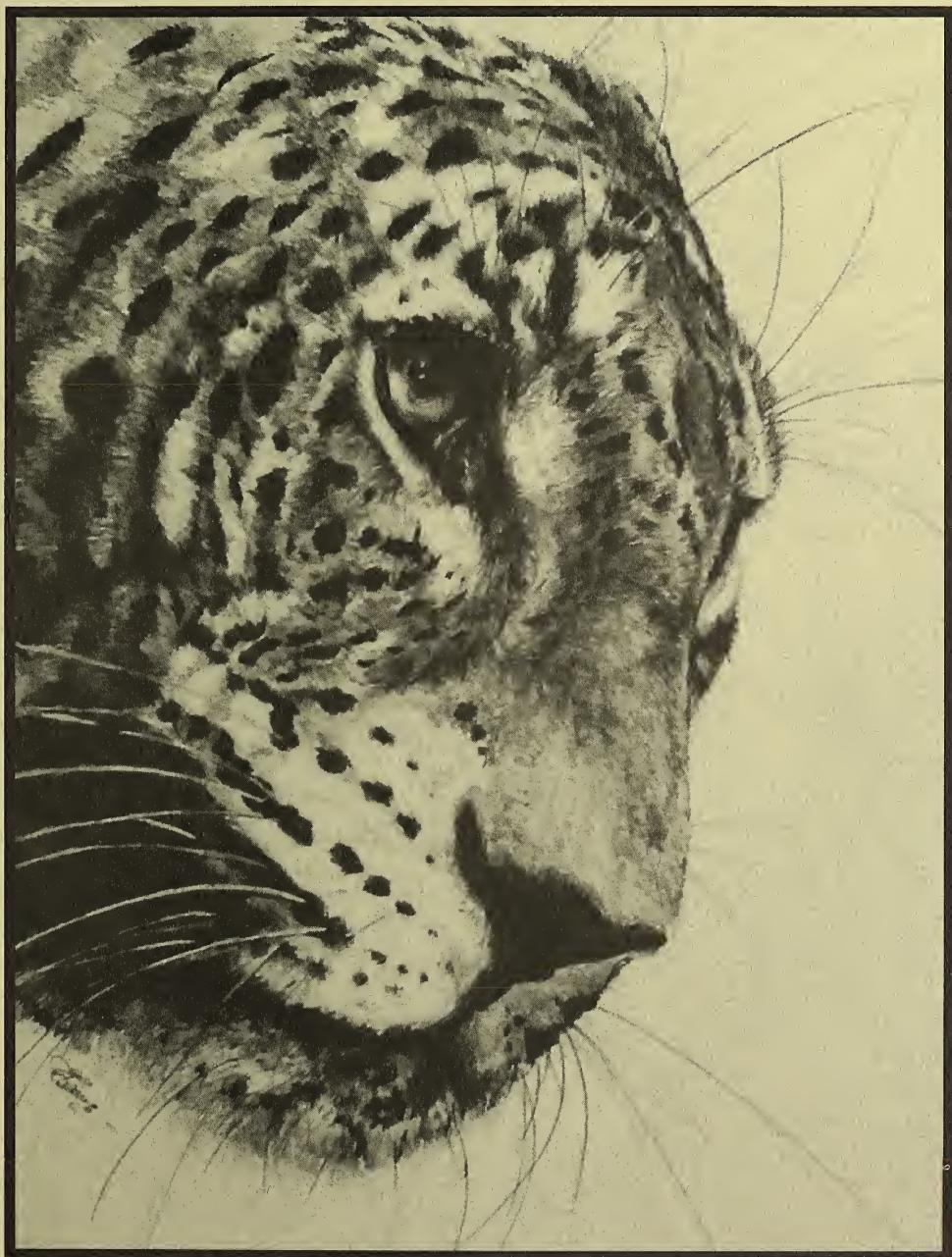


ANIMAL KEEPERS' FORUM



March 2011

The Journal of the American Association of Zoo Keepers, Inc.

ANIMAL KEEPERS' FORUM, 3601 S.W. 29th St., Suite 133, Topeka, KS 66614-2054

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37th Anniversary - 1974 - 2011

MISSION STATEMENT

(Revised April 2009)

American Association of Zoo Keepers, Inc.

The mission of the American Association of Zoo Keepers, Inc. is to advance excellence in the animal keeping profession, foster effective communication beneficial to animal care, support deserving conservation projects, and promote the preservation of our natural resources and animal life.

*This month's cover features the Leopard (*Panthera pardus*) drawn by Elena V. Chelysheva, Ph.D. who lives and works in Moscow. The most secretive and elusive of the large carnivores, the leopard is also the shrewdest. Pound for pound, it is the strongest climber of the large cats and capable of killing prey larger than itself. Leopards come in a wide variety of coat colors, from a light buff or tawny in warmer, drier areas to a dark shade in deep forests. The spots, or rosettes, are circular in East African leopards but square in southern African leopards. Dense bush in rocky surroundings and forest rivers are their favorite habitats, but leopards adapt to many places in both warm and cold climates. Their adaptability, in fact, has helped them survive the loss of habitat to increasing human settlement. Leopards are primarily solitary and nocturnal, usually resting during the daytime in trees or thick bush. The spotted coat provides almost perfect camouflage. Each individual has a home range that overlaps with its neighbors; the male's range is much larger and generally overlaps with those of several females. Leopards continually move about their territory, seldom staying in an area for more than two or three days at a time. Ranges are marked with urine and claw marks and leopards announce their presence to other leopards with a rasping cough. Leopards also growl, roar and purr. A litter includes two or three cubs, whose coats appear to be smoky gray as the rosettes are not yet clearly delineated. The female abandons her nomadic wandering until the cubs are large enough to accompany her. She keeps them hidden for about the first eight weeks, giving them meat when they are six or seven weeks old and suckling them for three months or longer. The leopard is a cunning, stealthy hunter, its prey ranges from strong-scented carrion, fish, reptiles and birds to mammals such as rodents, hares, hyraxes, warthogs, antelopes, monkeys and baboons. Both lions and hyenas have been known to take away a leopard's kill. To prevent this, leopards store their larger kills in trees where they can feed on them in relative safety. Leopards stand about 28 inches at the shoulder and weigh on average 140 pounds. In captivity they may live to be 21 years of age. Like many wild felids, the Leopard has been hunted for its beautiful coat and has lost habitat due to human encroachment. Thanks, Elena! Source: <http://www.awf.org/content/wildlife/detail/leopard>*

Articles sent to *Animal Keepers' Forum* will be reviewed by the editorial staff for publication. Articles of a research or technical nature will be submitted to one or more of the zoo professionals who serve as referees for *AKF*. No commitment is made to the author, but an effort will be made to publish articles as soon as possible. Lengthy articles may be separated into monthly installments at the discretion of the editor. The editor reserves the right to edit material without consultation unless approval is requested in writing by the author. Materials submitted will not be returned unless accompanied by a stamped, self-addressed, appropriately-sized envelope. Telephone, fax or email contributions of late-breaking news or last-minute insertions are accepted as space allows. Phone 785-273-9149; FAX (785) 273-1980; email is akfeditor@zk.kscoxmail.com<. If you have questions about submission guidelines, please contact the Editor. Submission guidelines are also found in the Members Only section of the AAZK website.

**Deadline for each regular issue is the 10th of the preceding month.
Dedicated issues may have separate deadline dates and will be noted by the editor.**

Articles printed do not necessarily reflect the opinions of the *AKF* staff or the American Association of Zoo Keepers, Inc. Publication does not indicate endorsement by the Association.

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AAZK website Address: www.aazk.org

BFR Website: <http://aazkbfr.org>

Scoops & Scuttlebutt

Update to February AKF article:

“Connecting Bird Keepers with AZA Program Leaders”

Since the submission of the article “Connecting Bird Keepers with AZA Program Leaders”, several changes have occurred to the AZA program structure. The following changes are now in effect. Readers should refer to the AZA website www.aza.org for full details.



- In order to be designated as an SSP® Program, the population size (total N at the time of population planning) must be equal to, or greater than, 50 individuals.
- For most populations, a sustainability score will be used to differentiate between Green and Yellow SSP® Program designations, and this sustainability score is defined as the projected % gene diversity (GD) at 100 years or 10 generations. SSP® Programs are designated as Green if they are able to retain at least 90.0% GD for 100 years or 10 generations.
- Populations with fewer than 50 individuals will be automatically designated as Red Programs, and will not be SSP® Programs. These Programs will still retain an official AZA Regional Studbook. There are no additional criteria used to designate these Red Programs.
- If there is no current AZA Regional Studbook, the population will be designated as a Red Program until a current, up-to-date AZA Regional Studbook has been submitted to the AZA Conservation Department for publication. ~submitted by author Sara Hallagher, Chair AZA Avian Scientific Advisory Group

AAZK Awards Committee Now Accepting Nominations

The American Association of Zoo Keepers Awards Committee is accepting nominations for the Lifetime Achievement Award, the Jean M. Hromadka AAZK Excellence in Animal Care Award, The Lutz Ruhe Meritorious Achievement - AAZK Professional of the Year Award, the Lee Houts Enrichment Excellence Award, the Certificate of Merit for Zoo Keeper Education, the Certificate of Excellence in Exhibit Renovation, the Certificate of Merit in Conservation, the Mazuri Animal Nutrition Award, and The AAZK Chapter of the Year Award that will be presented at the 2011 AAZK Conference in San Diego, CA. The deadline for nominations is **1 May 2011**. Information concerning the qualifications, nomination procedure, selection procedure and an explanation of the awards may be obtained at www.aazk.org, under committees/awards.

Conservation Committee seeks Column Coordinator for Conservation Station

The AAZK Conservation Committee is seeking a new member to serve as Column Coordinator for our bi-monthly Conservation Station column. Interested individuals should possess the following qualities:

- Be national AAZK members in good standing with the Association.
- Be able to attend electronic monthly Committee meetings and participate in Committee projects.
- Possess excellent skills in writing, proofreading, organization, and communication.
- Be able to meet strict deadlines.

Letters of interest, résumés and inquiries may be sent to Conservation Committee Chair Amanda Kamradt at amanda.kamradt@aazk.org. Samples of publications or other written materials may be submitted along with a letter of interest and résumé. **Deadline to apply for this position is 31 March 2011.**

AZA TAG Seeks Red-flanked Duiker Studbook Keeper/Program Leader

The AZA Antelope and Giraffe TAG is seeking a North American Regional Studbook Keeper and Program Leader for its Red-flanked Duiker program. Those interested in applying for this program leader vacancy should contact Martha Fischer, Antelope and Giraffe TAG Chair, at fischer@stlzoo.org by 1 April 2011.

Thank Yous Are in Order....

Zoo Infant Development Notebooks

The AAZK Board of Directors and the Administrative Office staff would like to sincerely thank Harmony Frazier, Senior Veterinary Technician, Woodland Park Zoo, Seattle, WA for her recent donation to the AAZK, Inc. website. In 1994, Harmony culminated a several year effort of gathering material from the zoo community on various aspects of zoo infant development with the publication of the two-volume reference work, *Zoo Infant Development Notebook*. This work contained a vast amount of information about the development of animal young in zoological settings. The hefty set, consisting of hundreds of pages in two large 3-ring binders flew off the AAZK Administrative Office shelves as individual AAZK members and many zoological institutions purchased this amazing reference work. Never before had this kind of information been assembled in one publication.

Now, through Harmony's generosity in underwriting the expenses, these two volumes have been scanned and converted to downloadable pdfs available to AAZK members through the Member's Only section of the AAZK website (www.aazk.org). In order to access this section of the website, an individual's membership must be current and they must have registered an account in the Member's Only section.

Our sincere thanks go out to Harmony and her volunteer assistant on this project, Trish Watson. Having this important data available to our members allows them easy access to information they can use in their facilities to provide excellence in animal care, particularly care of zoo infants.

INSIGHT E-Newsletter for Chapters

The AAZK Board of Directors and the Administrative Office staff would also like to send a big "Thank You" to Mark deDenus, retired zoo keeper (formerly associated with the Assiniboine Park Zoo in Winnipeg and the Reid Park Zoo in Tucson, AZ). Mark has served as volunteer editor for *INSIGHT* since 2006. This e-newsletter was produced quarterly and sent out electronically to all AAZK Chapters. It contained updates on Chapter News, important announcements from AAZK, Inc. on conferences, elections, etc., a financial update on the income and expenses of the Association, along with Mark's always interesting and memorable editorials.

Mark produced his last issue of *INSIGHT* in January/February 2011. It is yet to be determined whether or not this e-newsletter will continue to be put together by another volunteer in the future or if the AAZK Board may look for other ways to stay in more frequent touch with our AAZK Chapters across the US and in Canada. Any further announcements once a determination is made will be published in *AKF*.

Mark spent many long hours gathering information and putting together the *INSIGHT* and we hope the information contained in it was useful to our Chapters and Chapter members. We greatly appreciate the time and effort Mark put in over the past five years and thank him (once again) for his service to the Association.

Zoo News Digest/Zoo Biology Group - Check Them Out!

Zoo NewsDigest is the longest established and most widely read listing of current 'zoo' related news on the Internet. It notes 'real' events of interest to those working within the zoo industry. The Digest also includes comments and notification of courses and coming events. You can check it out on its Facebook® page at <http://www.facebook.com/pages/ZooNews-Digest/41410063216?ref=nf>. Or check our <http://zoonewsdigest.blogspot.com/>

The Zoo Biology Group is concerned with all disciplines involved in the running of a Zoological Garden: captive breeding, husbandry, exhibit design and construction, diets, enrichment, management, record-keeping, etc. To join the Zoo Biology group see <http://groups.yahoo.com/group/zoo-biology> for qualifications and process.

Correction on Omission in AKF Article - from the AKF Editor

I have been notified by author Becky Kunkel that there was an omission in one of the graphs she had submitted to include with her article that appeared in last month's Enrichment Options column. The article was entitled "Evaluating Interaction with Edible and Inedible Enrichment Items by an African Serval (*Leptailurus serval*)" (pgs. 61-66, February 2011 AKF). Figure 2 as published did not include labels showing the differences in the findings between the two groups of bar graphs . The correct Figure 2 is shown below and should clarify any misunderstanding of the data in this graphic.

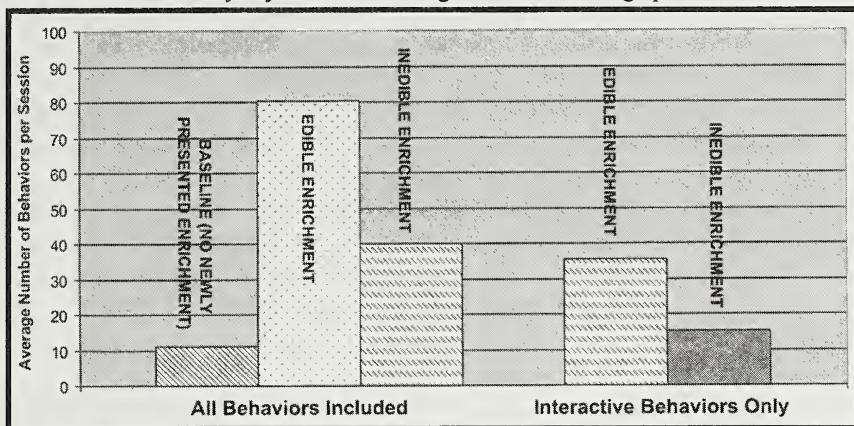


Figure 2. Average Number of Behaviors Exhibited by a Serval During Vaseline and Treatment Sessions at the Fort Worth Zoo.

Announcing the Felid TAG Husbandry Course and Mid-Year Meeting

May 2011 – Hosted by Omaha's Henry Doorly Zoo, Omaha, NE

The Fifth Annual Felid Husbandry Course will be held May 1-4, 2011

SSP® Meetings will be held May 3-4, 2011

AZA FTAG Mid-year Meeting will be held May 5-7, 2011

Husbandry Course: Students completing the course will cover all aspects of felid husbandry, including safety, nutrition, behavior, reproduction, veterinary issues, and introductions. They will be provided a variety of resources (both electronic and paper) and personalized assistance with problem solving tasks, as well as the opportunity to discuss challenges and goals in their own institution's program.

The ideal student attending the husbandry course will:

- Have at least one [1] year of experience working with felids
- Currently work in a position at your facility where they are involved in the daily care of felids (keepers, leads, front-line supervisors, etc.)
- Have institutional support to attend the three-day workshop, including pre-work and follow-up after their return
- Be willing to actively participate in course discussions during class and offer feedback to instructors after the course.

Once again the Denver Zoo is generously offering a scholarship to aid a student in attending the Felid Husbandry Course. Scholarship applications may be found at the FTAG website or by contacting Bonnie Breitbeil bonnieb@centralfloridazoo.org For more detailed information including hotel or contacts please visit the Felid TAG website www.felidtag.org



July 17 - 23, 2011

Starting Planning Now! See helpful info at www.aazk.org
Look under "About Us" on the homepage.

From the President . . .

This month's letter isn't my attempt at a discourse on life or a journey into the comfortable corners of my remembrance. I'll save that for another day. But if there is some self-revelation in this letter, it comes in shifting perspectives and the fond memories of a dear colleague.

The longer I work in this occupation, the less concerned I am about personal achievement and the more satisfaction I receive from helping others. To me, there is nothing better than helping an intern land their first job, or hearing from an AAZK member that something I did or said was inspirational for them. One of the things in my career that makes me most proud is watching how a former intern moved on to become a full-time keeper, to AAZK/PBI Leadership Camp participant, to Leadership Camp Facilitator, to Acres for the Atmosphere Chairperson. I figure at this pace she will be a zoo director by next year. Remember me when you hit the big time! I mention this, not only because our industry has a shortage of quality mentors and we need more of you filling that role, but because I was recently reminded of just how simple it can be to make such a big difference in someone's career or life.

I recently received a proposal from an AAZK member on his ideas to develop a mentoring program for new AAZK members and Chapters. The proposal was insightful and replete with bright ideas. But what really caught my attention, and had me choked up, was this paragraph in his proposal: "Let's face it, a lot of us who got involved nationally with our organization probably had one or all these going for us: highly motivated, passionate about what we do and are willing to say or do anything to share that passion, met one person who changed our outlook or channeled that energy that convinced us to take that above mentioned energy and get involved. For me it was the beautiful Lee Houts. She talked to me at the KC AAZK conference while standing in line for food at lunch, listened and discovered that I was someone who would be willing to put their neck out and get involved when given an opportunity. That was one moment that lasted seven minutes at best but changed how I approached AAZK and from that point on I talked to her every chance I got. Why? Because that seven minutes gave me the opportunity to begin a dialog that will now last me the rest of my career and for the rest of my life. So mentoring in our organization is possible and this is how I feel we can begin approaching this concept."

This message was very personal for me because the late Lee Houts was always one of my favorite people in the zoo industry and someone I counted on my own list of mentors. I remember my first AAZK Conference. Lee introduced herself and told me about the Enrichment Committee. I

mentioned some of the enrichment I had been doing with the bears at my zoo and she asked me to come to the open committee meeting. In the middle of the meeting, I remember one of the committee members saying "Shane has been doing some great enrichment with bears, Shane would you mind coming up to the podium and telling us about it?" Keep in mind I was just a rookie keeper at the time, and public speaking really wasn't my thing, but up to the podium I went. As I started to describe the bear enrichment, I kept hearing this rattling noise that was very distracting and annoying. Finally, half-way through my discussion I realized the rattling was caused by my left leg which was shaking so badly, the noise was being picked up by



the microphone. I looked up, saw Lee's big smiling face, calmed down, and finished the talk without anyone knowing I was nervous. As President of AAZK, I now give countless public presentations, and I still occasionally get nervous, but I can still see Lee's smiling face.

I remember going out to dinner one night with Lee during the Toronto AAZK Conference. Wandering downtown we found a sushi restaurant. As I reached for a fork, Lee said, "Shane, you can't eat sushi with a fork". "But Lee, I don't know how to use chopsticks". "Well Shane, tonight is the night you learn how". Even in a sushi restaurant, Lee was the consummate mentor.

When many of you remember Lee Houts, you appropriately think of animal enrichment, as she was involved in our national Enrichment Committee for many years. I often remember a video she presented at an AAZK conference called "Helping Ursula", about the lengths that she and her staff went to ease the suffering of a bear with chronic and debilitating arthritis. Aside from traditional western medicine, the staff used alternative treatments such as acupuncture and other forms of treatment not commonly used in zoos. The effort they put into the treatment of that one animal was unparalleled. Quite simply, if I were a zoo animal, I would have wanted Lee to be my keeper. What better compliment can we give to one of our colleagues?

To honor Lee, AAZK established the Lee Houts Excellence in Enrichment Award. Unfortunately, not a single person was nominated for this award in 2010. So one of the main purposes of this Letter is to encourage the membership to nominate their worthy colleagues for this and the many other awards that are given out by AAZK each year. Many even come with cash prizes. I can understand how some awards may go unclaimed in any given year. A Lifetime Achievement award sounds very prestigious, so maybe somebody wouldn't win one every year. But enrichment? AAZK is synonymous with enrichment, so there should be no reason for one of our members to not receive it in 2011. Awards are how we recognize achievement, innovation, and hopefully inspire the next generation of keepers. It is also how we remember those for which they are named; Lutz Ruhe, Jean Hromadka, and Lee Houts.

A handwritten signature in black ink that reads "Shane Good". The signature is fluid and cursive, with the first name "Shane" on top and the last name "Good" below it, both sharing a common vertical stroke.

Shane Good, AAZK President
Cleveland Metroparks Zoo

(Editor's Note: Information on nominating a colleague for any of the AAZK awards may be found on the Association's website [www.aazk.org]. From the Home Page click on "About Us", then on Awards Committee under the Committee listings. The following awards are available from AAZK: Lifetime Achievement (LA) Award, Lee Houts Excellence in Enrichment (LHEE) Award, Certificate of Merit for Zoo Keeper Education (CMZE), Certificate of Excellence in Exhibit Design Renovation (CEER), Mazuri Animal Nutrition Award (MANA), Jean M. Hromadka AAZK Excellence in Animal Care Award, The Lutz Ruhe Meritorious Achievement - AAZK Professional of the Year Award, Certificate of Merit in Conservation Award and The AAZK Chapter of the Year Award. Award nominations must be submitted to the Awards Committee Chair by 1 May 2011. Awards will be presented at the 2011 AAZK Conference in San Diego.)

Coming Events

**Post Your Coming Events Here
email to: akfeditor@zk.kscoxmail.com**

March 19-24 , 2011 - The 2011 AZA Ungulate TAG Midyear Meetings are being planned in conjunction with the AZA Midyear workshop in Chattanooga, TN. This year the meetings will include midyear working meetings for the following AZA TAGS: Antelope and Giraffe, Equid, Cervid, Caprid, Wild Pig and Peccary and the Cattle TAG, as well as the Annual Ungulate TAG Research Symposium. Conference Hotel will be the Chattanooga Marriott with rates of \$135/night. Contact Martha Fischer at fischer@stlzoo.org for more information.

April 17-22, 2011 - 11th Annual Animal Behavior Management Alliance (ABMA). In Denver, CO. The conference will kick off with our keynote speaker, Dr. Jill Mellen from Disney's Animal Kingdom, and will culminate with an Earth Day to remember at the Denver Zoo. See (<http://www.theabma.org/>) for further information.

May 15-18, 2011 - 2011 Rhino Keeper Workshop. To be held at Fossil Rim Wildlife Center, Glen Rose, Texas. For further info contact: adam.felts@columbuszoo.org

June 13-16, 2011 - 7th International Zoo & Aquarium Marketing Conference - Hosted by the WAZA and the Granby Zoo in Granby, Quebec, Canada. Theme for the conference is "Strategic Marketing in Action". The program will address the following topics: Strategic Marketing, Marketing the Zoo & Aquarium Community, Marketing, Education and Conservation, Turn Bad News into Good News, and Social Marketing in Action. See www.zoodegranby.com/waza for further information.

July 20-23, 2011 - Biology of Rattlesnakes Symposium - To be held at the University Park Marriot in Tucson, AZ. Hosted by the Chiricahua Desert Museum and the Arizona-Sonora Desert Museum. People interested in presenting papers should contact Lori King Palmer at loriguanid@aol.com. Those interested in presenting posters contact Matt Goode at mgoode@ag.arizona.edu. For registration information, current list of speakers and other details, please go to www.biologyoftherattlesnakes.com

July 25-30, 2011 - The First-ever Joint Meeting of the International Ethological Conference (IEC) and the Animal Behavior Society (ABS). To be held at Indiana University, Bloomington, Indiana, USA. More information can be found at the conference website: <http://www.indiana.edu/~behav11/index.shtml>. The program will be

exciting and integrative scientific that draws on the strengths of both the IEC and the ABS.

October 1-5, 2011 - 30th Annual Conference of the Association of Zoological Horticulture (AH). Hosted by the Sedgwick County Zoo, Wichita, KS. Theme: "Bringing the World to the Plains". Seminars and workshops covering a wide range of topics involving Horticulture, Integrated Pest Management, Conservation and Exhibit Design will be presented. Participants within the Horticulture, Arboriculture and Grounds Maintenance fields are encouraged to attend. For information call 316-266-8313, 316-266-8314 or visit AZH.org.

October 6 – 9, 2011 - Advancing Bear Care 2011 To be held in Banff, Canada. Bear biologists and naturalists will lead hikes into bear habitat and interpret for delegates how bears use the components of the ecosystem to express their daily and seasonal routines. We will bring this information back into workshops and apply this knowledge towards improving captive bear husbandry. Also, international bear biologists will assist us in interpreting Asian, European, and South American bear habitats. Conference updates will always be posted on the Bearcare Yahoo Group list serv <http://ca.groups.yahoo.com/group/bearcare/> You will be able to advertise your need for roommates, rides, conference questions etc. on this list serv. To join just send an email to bearcare-subscribe@yahoogroups.ca

October 6-9, 2011 - 32nd Annual Elephant Managers Association Conference - Hosted by the Seneca Park Zoo, Rochester, NY. The pre-conference trip will be hosted by Lion Country Safari in Cambridge, Ontario on Wednesday, October 5th (Passport needed to participate in this trip).

2012

August 8-14, 2012 - The World Congress of Herpetology - To be held in Vancouver, Canada. For more information see <http://www.worldcongressofherpetology.org/>

September 9-13, 2012 - 4th International Congress on Zookeeping - Sponsored by Wildlife Reserve Singapore/Singapore Tourism Bureau. Theme: "Many Voices, One Calling". For info on sponsorship or exhibit opportunities email eo@aszk.org.au. Check the ICZ website <http://www.icz.org/> for latest news/information.

AAZK Announces New Members

New Professional Members

Lauren Moulis and Katie Mokkosian, **Squam Lake Natural Science Center (NH)**; Amanda Markley, **Roger Williams Park & Zoo (NH)**; Daphne Revie, **Bronx Zoo (NY)**; Pamela Harmon and Cynthia Griffin, **Buffalo Zoo (NY)**; Julie Krajewski, **Metro Richmond Zoo (VA)**; Kimberly Lawson and Michael Romano, **Durham Museum of Life & Science (NC)**; Nicole Alexis Hill, **Lion Country Safari (FL)**; Tom Dillenbeck, **Disney's Animal Kingdom (FL)**; Jessica Howard, **Jackson Zoological Park (MS)**; Halina W. Walsh, Erin Tschida, DeAnna Harris, David C. Messman, Whitney Jones, Devin Tucker, Amanda Collins, and Stephanie Boldon, **Ft. Wayne Children's Zoo (IN)**; Benjamin Lippert, **Peoria Zoo (IL)**; Nathan Oliveria, Stephanie Braccini and Lisa Lidgus, **Saint Louis Zoo (MO)**; Jackie Fallon, **Wild Canid Survival & Research Center (MO)**; Brandi Wilson, Stacie Beckett, **Kansas City Zoo (M)**; Alyria Hess and Jade Goodrich, **Omaha's Henry Doorly Zoo (NE)**; Claire Richard, **Zoo of Acadiana (LA)**; Emily Spence, **Frank Buck Zoo (TX)**; Kimberly Schillenberger, **Dallas Zoo (TX)**; Jeremy Wilson, Michael Flud, Kimberly Boyd, Krista Rader, Ariana Keller, Katherine Richter, Carin Dobbs, **Abilene Zoo (TX)**; Matthew Lenyo, **Denver Zoo (CO)**; Darrell Markum, **Tautphaus Park Zoo (ID)**; Dorian Drage, **Utah's Hogle Zoo (UT)**; Kimberly Ludwig, **Reid Park Zoo (AZ)**; Jasmine Bugbee, **Wayne Newton's Ranch (NV)**; Kellie Lehman, **Sea World (CA)**; Crystal Schalmo and Rick Schwartz, **San Diego Zoo (CA)**; Shannon College and Cassie Moews, **Wildlife Safari (OR)**. (We do not publish the names of new and/or renewing members who do not list their facility on their membership application/renewal. There were three in March.)

Renewing Institutional Members

Bucks County Zoo
Warminster, PA

Joseph Fortunato, President

Lion Country Safari, Inc. FL
Loxahatchee, FL

Harold Kramer, General Manager

Exotic Feline Rescue Center
Center Point, IN
Joe Taft, Founder/Director

Scoville Zoo
Decatur, IL
David Webster, Director

Cedar Cove Feline Conservation Park
Louisburg, KS
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RATS AND MICE

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CALL FOR PAPERS

FOR DEDICATED ISSUE OF AKF - UNGULATES

We are planning on producing a combined July/August 2011 edition of Animal Keepers' Forum dedicated to ungulates. We will be working with the Ungulate TAGs in producing this dedicated issue. We would like those interested to submit manuscripts for consideration for inclusion in this dedicated issue. Possible topics might include the following:

- Ungulate Care and Management
- Managing multi-species habitats
- Managing single-sex herds
- Ungulate Hand-rearing
- Ungulate hoof care
- Ungulate operant condition
- Ungulate Enrichment

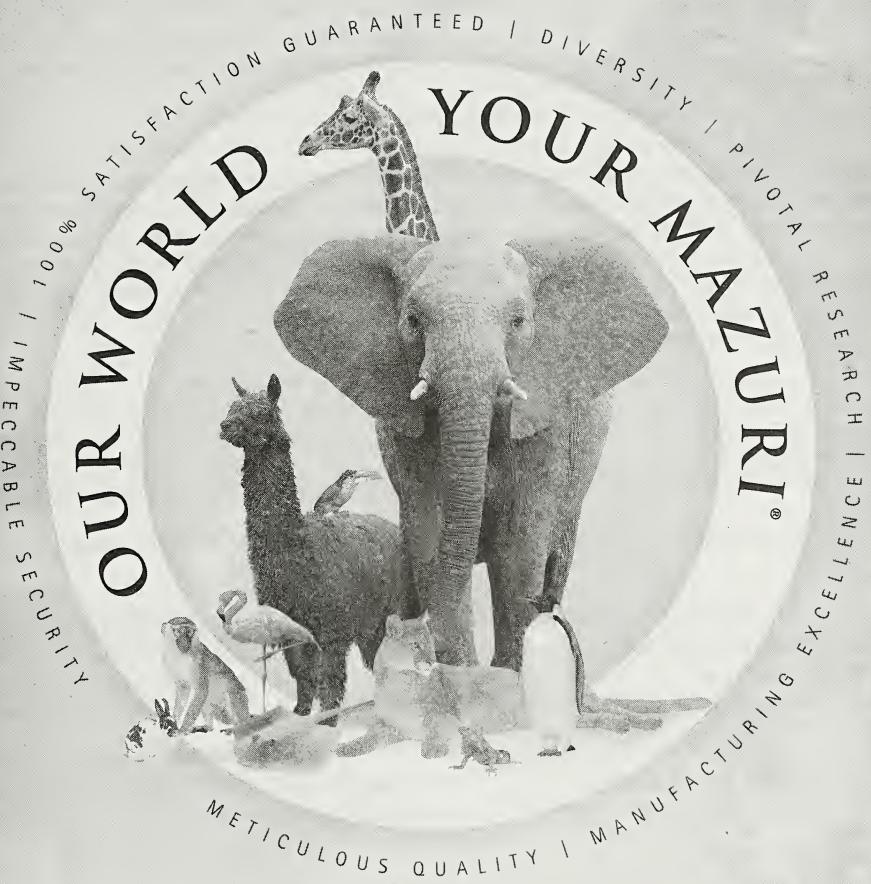


Papers should be submitted electronically in MS Word only to akfeditor@zk.kscoxmail.com. Please use Times or Times New Roman font (10pt text body). Please put "Ungulate Issue" in the subject line. Papers should be no more than 10 pages in length. Any charts and/or graphs should be submitted as separate jpg or tif files along with (but not imbedded in) the manuscript. We also encourage photos of your animals to include and these should also be submitted electronically as either high-resolution (minimum 300 dpi) jpg or tif files.

If you cannot submit your material electronically, you may submit your materials on a disk or CD sent to: Ungulate Dedicated Issue, AAZK, Inc., 3601 SW 29th St., Suite 133, Topeka, KS 66614-2054. If you cannot submit photographs electronically, you may send 3 x 5 inch prints to the same address. You should include proper photo credit for each photo and also suggested captions for each photo submitted.

Be sure to also include your complete contact information including name, address, email and a daytime phone where you may be reached if we have questions concerning your submission. Also be sure to include your facility and your job title at that facility.

**Deadline for submission of articles for consideration for this special
Ungulate Issue is May 15, 2011.**



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The 38th Annual AAZK National Conference

San Diego, CA ~ Aug 24-28, 2011

Can you believe there are only six months left until the 38th Annual AAZK Conference in sunny San Diego! The San Diego AAZK Chapter is excited to announce more details on the conference, listed below. Please look them over and log on to our website www.sdaazk.org to register for the conference. Feel free to contact any San Diego AAZK board member if you have questions.

Registration

Online conference registration will be preferred, however other options will be made for those unable to register online. For the 2011 National AAZK Conference, SD AAZK is using Eventbrite as its registration source. When you go to register at www.sdaazk.org, you will be linked to our Eventbrite site. All conference events, such as Pre & Post Conference Trips, Zoo Day Behind-The-Scenes (BTS) locations and times, and San Diego Zoo's Safari Park special events, are now offered online for sign-up at the time of registration. Please read all the categories when you go to register. Therefore those who register early will have first choices as to areas they would like to visit.

Prices

Full week registration:

Members: \$200 (includes all paper sessions, Icebreaker, Zoo Day, Awards lunch/dinner, T-shirt)

Non-members: \$275 (includes all paper sessions, Icebreaker, Zoo Day, Awards lunch/dinner, T-shirt)

Note: Full registrations may be transferred among different individuals on different days if desired, but only one conference packet with one conference badge will be issued per registration. If conference registration is purchased for a group, cost will be dependent on group's AAZK membership status and will state group's name. All individuals will only be able to enter conference areas if wearing conference badge.

Daily Registration: \$75

Banquet only: \$100

Icebreaker only: \$75

Conference T-shirt: \$15

There will be an increase in cost for registration after 13 July 2011.

Late Registration Fee for Members: \$275

Late Registration Fee for Non-Members: \$350

Daily Registration Fee: \$85

Pre- and Post-Conference Trips

Conference Pre- and Post-Conference Trips are still being worked on but the following is a tentative schedule. Times are yet to be determined.

Tuesday, 23 August: SeaWorld San Diego Visit. Meet SeaWorld staff for an exciting day. Includes entrance to park, Skyride, Skytower, special Behind-The-Scenes experiences, and transportation. Limited to 50 people. Donation of \$70 pp. Questions regarding this trip? Contact Linda Henry at Linda.henry@seaworld.com for details.

Wednesday, 24 August: San Diego Zoo Safari Park Photo Caravan. Ride into the Park's open field exhibits in a flatbed truck, and get a chance to feed giraffes or rhinos while capturing safari style photos of wildlife in a natural setting. The first 100 people to register will be able to sign up for

this one-hour tour for only \$35. Price includes San Diego Zoo Safari Park admission, tour, and transportation. Limited spaces.

Monday, 29 August: Visit to Alpine and Julian. This trip includes a stop at the local exotic cat rescue facility “Lions Tigers and Bears” with a stop in Julian for wine tasting and lunch at Menghini Winery. Continue on to the California Wolf Center for an afternoon presentation and tour. Transportation included. Cost \$60 pp. Questions regarding this trip? Contact Hali O’Connor at halieden44@yahoo.com for details.

There is just so much to do in San Diego! We are offering information for other activities while you are in town. San Diego is home to five zoos and aquariums. In addition to the San Diego Zoo, San Diego Zoo Safari Park and SeaWorld San Diego, consider visiting SeaLife Park at Legoland and the Birch Aquarium at UCSD during your conference visit. Are you interested in a kayak tour or snorkeling with leopard sharks in La Jolla? Would you like to visit Disneyland? Disneyland is located in Anaheim, one hour and 40 minutes drive from San Diego (w/o traffic). Let us know what you would like to do and we will help you plan your activity.

Program

Our SD AAZK board is extremely excited to announce that our keynote speakers will be Joan Embrey and Juli Scardina. Joan Embrey has served as a champion of environmental and conservation issues around the world. Juli Scardina is an Animal Ambassador for SeaWorld and Busch Gardens and has shared her love of animals and commitment to wildlife conservation with people across the nation. For more information on our terrific keynote speakers, please visit our website.

Icebreaker

We are thrilled to hold the Icebreaker at the San Diego Zoo Safari Park. We will offer a limited number of tours at a very reasonable price.

Zoo Day

Conference delegates will have all day to explore the World Famous San Diego Zoo! Zoo Day will include a free breakfast and lunch, Behind the Scenes tours, Open Houses, and special presentations. Special visits in various areas will be available on a first come, first serve basis, dependent upon when you register for the conference. You will even receive a discount on merchandise and food throughout the zoo!!!

Exhibitor Information

We will have exhibitor tables available during the duration of the conference. Exhibitor tables will be located in the Westin Gaslamp Quarter Hotel in a highly visible area. There will be a limited number of tables available so be sure to reserve yours soon. Exhibitor rates are as follows:

AAZK Members: \$100 AAZK Non-members: \$200 Conservation Groups: \$ 50

Note: Additional fees may apply.

Submitting Papers and Workshops

The San Diego Chapter of AAZK invites you to submit abstracts relevant to our theme “Inspiration, Dedication, Conservation, Innovation” for the 2011 National AAZK Conference, August 24-28. Abstracts will be accepted for one of the two categories: papers or posters.

FINAL CALL FOR PAPERS: Authors will give a 15-minute presentation with a five-minute Q&A

session immediately following. Papers should discuss techniques, achievements, or innovative approaches to animal care and husbandry, welfare, conservation, education or research. Deadline for abstracts for both papers and posters is 1 April 2011. Presenters will be notified regarding acceptance by 1 May 2011. All final and complete papers must be received by 15 June 2011 in order to be included in the program.

POSTERS: Posters will be on display throughout the conference and presenters must be available for discussion with other conference delegates during the designated poster presentation session.

GUIDELINES FOR ABSTRACTS: Abstracts should be no longer than 300 words and should be submitted in MICROSOFT WORD 97-2003 Word or higher via email to 2011SanDiegoConference@cox.net. Be sure to include the following information:

- Title of paper or poster (specify which type of presentation)
- Full name of presenter and authors
- Institution/Affiliation Position/Title
- Short bio of yourself for introduction
- A/V needs
- Contact Information, including email address

For more information, please visit our website at www.sdaazk.org or contact us at:
2011SanDiegoConference@cox.net

Chapter Challenge

Don't miss out on this opportunity to get involved with the Chapter Challenge! How would you like to win a free registration or a registration in addition to a shared double room?? Do you want to support the general conference budget to help make this gathering spectacular? Visit our website for more details!

Accommodations

Hotel registration at our special conference rate is available NOW! The Westin is located in San Diego's historic Gaslamp Quarter, featuring fine shopping, restaurants, entertainment, and culture. The Westin Gaslamp Quarter offers a unique location with the exhilarating excitement of the city at our doorstep. Because of the Westin's central location, it is an easy to use our public transportation system. Conference delegates will be able to access public transportation to many of San Diego's main attractions, including the San Diego Zoo, SeaWorld, Scripps Birch Aquarium, and our beautiful beaches. Conference delegates will also enjoy the Westin's hospitality, and the environment will appreciate their green policies.

Conference Room Rate: \$159 per night. The hotel has a limited number of double rooms available; if you need two double beds in the room, please book early, and let the hotel know you'd like a double room.

Room rate: Single or Double – \$159, Each additional person \$20

To book your hotel reservation, go to www.starwoodmeeting.com/Book/aazk or visit www.sdaazk.org. Hotel rate is available until 2 August 2011.

Roommate Connections

Looking for a roommate during the conference? Let us know your preferences for a roommate and we will try our best to help you find a roommate during the 2011 National AAZK Conference in San Diego. Information we will need includes: Your name and institution you work for, roommate

preference (male/female), smoker vs. non-smoker, and your dates of arrival and departure. Email Laurie Brogan at birdladysdaazk@cox.net with your information.

Transportation

By Air: Conference delegates should fly into the San Diego International Airport (SAN). Bus from Airport to Westin Gaslamp Hotel, Route # 922: Use San Diego's Metropolitan Transit System (www.sdmts.com) for \$2.25 (exact fare required) from the airport to the hotel as your cheapest and greenest way to arrive. Route #992 takes 15 minutes and leaves from in front of the airport every 13 minutes. Tell your driver your destination is the Westin Gaslamp Hotel at Horton Plaza. Once you exit the bus on Broadway Avenue, the hotel is on that same side.

Auction Events

Would you like to participate in the 2011 National AAZK Conference's Live and/or Silent Auctions? Items donated for the Live Auction should be valued at \$300 and up (or equivalent). These items could include animal artwork, collectable artwork, jewelry, vintage pieces, gift certificates, vacation stays, and more. There will be a limited number of items used for the silent auction, so unique and creative items are encouraged. Ideas of items you can donate for the Silent Auction: memorabilia from your organization, jewelry, items that are appropriate for resale, and anything else you think would be of interest.

Both auctions will be held on 28 August during the Awards Banquet at the Westin Gaslamp Hotel. Preview time will be announced at the conference, so stay tuned. You won't want to miss out!

Auction forms MUST accompany all donated items (download form online). If you are bringing items with you to the conference, please turn in the auction form and donated items at time of registration. If sending or mailing items ahead of time, please send items and completed auction form to: San Diego AAZK ATTN: Maureen O. Duryee P.O. Box 632984 San Diego, CA 92103

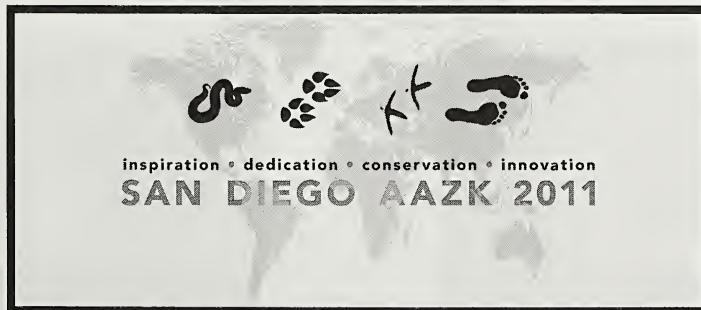
For auction information, please contact Maureen O. Duryee, SD AAZK Fundraising Coordinator, at Duryee@cox.net. The auctions will be exciting so be sure to check out all the items during the preview.

LOOKING FOR SPONSORS!

Have you considered getting involved by becoming a sponsor of the 2011 National AAZK Conference in San Diego? Now's the time to support a great organization and be seen among animal care professionals from around the world.

Contact Conference Co-Chair, Matt Akel at matthewakel@att.net for more information on how to help make a difference.

Be sure to visit www.sdaazk.org for continual updates regarding the conference. Don't forget to visit us at Facebook and Twitter via our webpage ~ www.sdaazk.org



Attention AAZK Members!

AKF Dedicated Issue Combo Pack Sale

Get a combo pack of all five dedicated issues of the *Animal Keepers' Forum* for just \$30 if you are a current AAZK member. Non-member price for the Combo Pack is \$60. You'll get issues on: Care and Management of Geriatric Animals [2009], Crisis Management, [2007], Polar Bears [2007], Cheetahs [2005], and Avian Husbandry [2010]. That's a savings of 40% over buying the issues individually. These are great issues so purchase your Combo Pack today. Orders from Canada and overseas require an additional \$10 in shipping. Domestic orders include shipping cost.

You may order this Combo Pack for a limited time by going to the AAZK website at www.aazk.org. Click on "Shop" from the homepage. Or you may order by calling the AAZK Administrative Office at 785-273-9149 for purchases with a Mastercard or Visa.

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The AAZK Behavioral Husbandry Committee Presents

Training Tales...



Where you can share your training experiences!

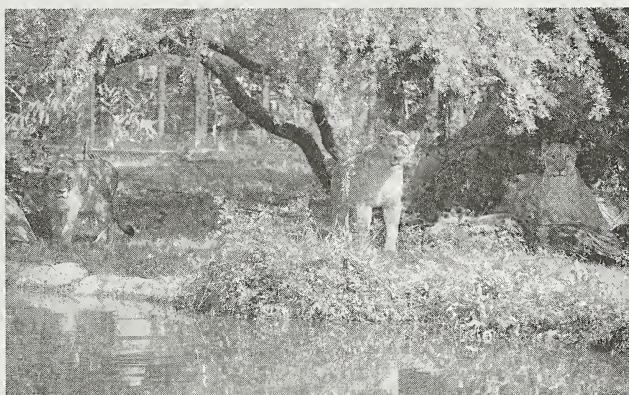
*Training Tales Editors – Jay Pratte, Omaha’s Henry Doorly Zoo;
Kim Kezer, Zoo New England; and Angela Binney, Disney’s Animal Kingdom*

3 Lions, 21 Days, 44 Minutes

By

*Susan Shepard, Senior Keeper-Carnivores; Josh Young, Zoo Keeper-Carnivores;
Angie Pyle, Senior Keeper-Carnivores, Houston Zoo, Inc., Houston, Texas*

“The lion girls are going to be sedated on September 28th”...Not “girl”, but “girls”. Yes, that’s right, all three of them on the same day and at the same time. This is what Houston Zoo’s, Houston TX, lion trainers Angie Pyle, Josh Young and Susan Shepard planned for on 7 September.. The keepers in the carnivore department were familiar with routine sedations, but three animals at the same time was unfamiliar territory. All three lions needed the same birth control implant (Deslorelin®) as well as their annual checkups. Rather than spread the sedations out over several days and cause stress amongst both trainers and lions, the trainers suggested the possibility of combining them into a single event. Needless to say, with such a short time before the sedation a sense of panic began to grip the lion trainers! To make the situation even more challenging, only one of the three lions had never had any formal injection training. So we began a crash course on injection training that would test the lions and trainers alike.



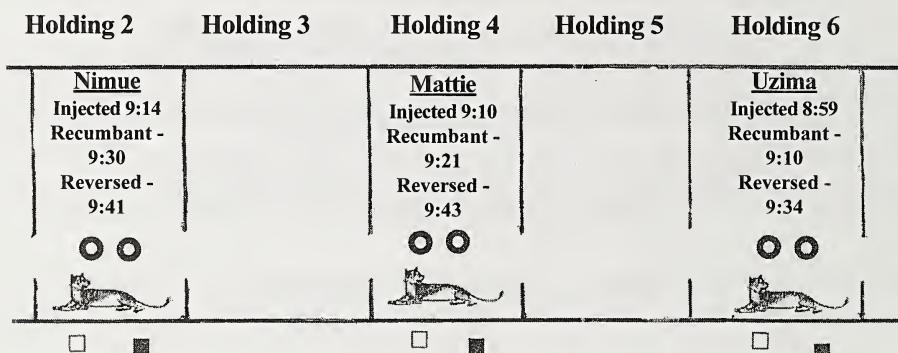
Lionesses Uzima, Martie and Nimue (l to r)
(Photo courtesy of Angie Pyle, Houston Zoo, Inc.)

Uzima, Matungulu (“Mattie”) and Nimue are two year old female African lions (*Panthera leo krugeri*) that came to the Houston Zoo from the Fort Worth Zoo in the fall of 2009. We started their training program as soon as they arrived so they already knew several basic behaviors. We would soon discover that this early training regimen helped establish a good foundation for injection training. The next step was to figure out just how we would go about preparing for the sedation.

First, the three lion trainers got together and mapped out a basic plan. The decision was made to immediately incorporate Ryanne Henigar, one of the zoo veterinary technicians. All three lions knew Ryanne and had a good working relationship with her. We all agreed that all three lions would be given the sedative injection one after the other, in three separate holding units via a short pole syringe. If any of the three needed to be darted, then they would be done last. With Ryanne giving

the injections, we believed that this strategy would give us the highest chance of success for all three lions to be sedated.

Figure 1: LION HOLDING



Key

- Trainer
- Ryanne
- 55-Gallon Barrels

Figure 1: Courtesy of Josh Young, Houston Zoo, Inc.

We started training on the day we learned of the upcoming sedations. We set up two large, 55 gallon plastic barrels full of water (to make them more difficult for the lions to move) in a holding unit. These barrels would act as a physical guide for the “line up” behavior (side presentation). We fed all three girls, one at a time, in the space between the barrels and the mesh. Nimue and Uzima caught on fairly quickly, though Mattie was a little hesitant. Despite a slower start for Mattie, she did great on the second day.

We noticed that, when in holding, the three girls would naturally position themselves into the same order every time: Nimue on the left, Mattie in the middle, Uzima on the right. Utilizing this behavior, we decided to train and sedate Nimue in Holding #2, Mattie in Holding #4 and Uzima in Holding #6 (see Figure 1). Our plan was to have the same 55 gallon barrel setup in all three holding units for individual training.

Each trainer took a slightly different approach to training for the injection. Since Uzima previously had a quick and dirty course in injection training, Susan started having her line up while Ryanne was present. Uzima appeared to remember Ryanne from the last time she was sedated. Consequently, Uzima was wary of her. Uzima lined up between the barrels and the mesh but kept a close eye on Ryanne. Susan heavily rewarded Uzima for lining up and then asked Ryanne to pick up the pole syringe. Uzima did great with that until she backed up and actually noticed the pole, at which point she was done! Ryanne set the pole back down and Susan asked for (and received) the line up behavior again from Uzima. Susan jackpotted her with a couple of large meatballs and then ended the session with Ryanne feeding Uzima several meatballs. Having Ryanne feed Uzima would end the session on a positive note and would hopefully set us up for a successful session next time.

Angie did something similar with Nimue. Nimue, however, was not nearly as wary of Ryanne as Uzima was. Angie had Ryanne feed Nimue several meat balls before asking her to line up. Once Nimue was in the line up position, Angie asked Ryanne to pick up the pole syringe. Nimue didn’t even appear to notice.

With Mattie, Josh took things a bit slower. He asked Ryanne to stand against the back wall while he asked Mattie to line up. Once Mattie was in position, Josh asked Ryanne to kneel beside him with

the pole syringe on the ground. Mattie stayed where she was so Josh jackpotted her and ended the session.



Josh, Rayanne and Mattie
(Photo courtesy of Susan Shepard, Houston Zoo, Inc.)

most skittish about being injected. Once the veterinary staff arrived, Rayanne and Susan went into the building while other veterinary staff members stayed outside. Susan asked Uzima to line up, which she did, and when she gave the cue "hip" Rayanne gave Uzima the injection. The injection consisted of a total of 1.7 ml of Ketamine® and Medetomidine® and was given via a pole syringe with a 16 gauge, 1 ½ inch needle. After she received the injection, Uzima roared, turned around and then immediately laid down next to the barrels. After several minutes she started showing signs of the sedative working. While Susan stayed with Uzima, Rayanne and Josh prepared to inject Mattie. There was a slight kink in the plans when Mattie decided to move the barrels out of the way. Josh shifted Mattie to another holding unit, repositioned the barrel and tried again. After a couple of attempts, Mattie lined up and Rayanne successfully gave the injection. Josh stayed with Mattie and Rayanne prepared the third syringe. By this time Uzima was fully sedated so Dr. Maud Marin was brought into the building to start her procedure.

Last, but certainly not least, was Nimue. We were not sure that Nimue would allow an injection, especially after hearing both of her sisters' comments about being sedated. However, she and Angie have a very good relationship; Nimue lined up when asked and received the injection. Shortly after this, a second veterinarian, Dr. Lauren Howard started working on Mattie. Once Nimue was fully sedated and Uzima's procedure was done, Dr. Marin moved to Nimue and started working on her. All three girls received a physical examination, their Deslorelin® implant, vaccinations, and had blood taken for both hematology and chemistry evaluations.

When all was said and done, we reviewed the numbers: All three lions received their injections within a total of 15 minutes. All three received 100% of the sedative. We were done with all three examinations and gave them the reversal drug in less than an hour. Three lions trained for injections in 21 days with all three recovering within 44 minutes... Success!

Acknowledgements

We would like to thank Rayanne Henigar, HZI's Veterinary team and our coworkers on the Carnivore team. Without their cooperation, this would not have been possible. This sedation required a lot of planning and communication between the trainers, supervisors and veterinary staff. It was also

Things continued like this for several days, with each trainer covering the other trainers' days off ensuring that the lions were trained every day. If training wasn't possible on a given day, all three were still fed in the line up position. Some days we would have Rayanne sit next to them while they were fed or have her feed each lion some of their diet. Over the next two weeks we graduated to either a trainer or Rayanne touching all three lions on the hip with varying amounts of pressure. Success seemed imminent.

On the day of the sedation, Josh separated the three lions in the order that we had discussed: Nimue in holding #2, Mattie in holding #4 and Uzima in holding #6. We decided to sedate Uzima first as she was the

fortunate that we were able to have two veterinary teams and their equipment so that animals could be anesthetized simultaneously. The availability of concentrated drugs also made a big difference in the total volume of drug to be injected and thus the chance of getting a full injection. Had we had to use a less concentrated drug, the chances of getting a 100% successful injection on all three lions would have been much slimmer!

This sedation required a lot of planning and communication between the trainers, supervisors and veterinary staff. So many factors played a role in making this sedation a success: our veterinary staff being willing to let us try, the lion girls being young and not having a lot of negative experience with our veterinary staff and technicians and three trainers willing to put in the time and effort to train the behavior. We realize that we were lucky that everything worked out as well as it did. We realize there are so many variables we may not always be able to do this. But we are hopeful that with work we will be able to repeat it in the future.

For more information, or questions, please contact Susan Shepard (sshepard@houstonzoo.org), Josh Young (jyoung@houstonzoo.org) or Angie Pyle (apyle@houstonzoo.org).

BHC Editorial Comments by Jay Pratte and Angela Binney:

While a lot of variables fell into place for the carnivore team in Houston, this is still a training situation that can clearly be achieved successfully by any team through good communication and planning, similar to what is detailed by the authors. One of the primary benefits is that group training can be much less stressful with social animals that do not do well being separated. By training them together on a routine basis, and then maintaining those parameters as consistently as possible on the “big day”, the animals will be more comfortable and more likely to cooperate. Involving veterinary staff, as they will most likely be doing the injections, is absolutely crucial and needs to be planned into the training goals as early as possible. If the veterinarian has limited availability, trainers can discuss other potential options (i.e., vet techs, area curators...) for personnel qualified to perform the actual sedations to allow the training to proceed.

Clearly the Houston team planned well for such a large undertaking, but it is up to the trainers/keepers to plan for the potential safety variables as well. Know the space you have to work with, how many people will end up in your building (and if the animals can hear or see them), and what would need to occur in case of an emergency to either treat the animal, move it quickly to the hospital, or evacuate staff if necessary. These contingencies may not need to be part of the training plan itself, but need to be considered for what can actually be accomplished on the “big day”. This is an excellent training adventure that involves a lot of people and effort. Cover all the bases like the Houston team did, and enjoy your training success!

Chance to Win Free Conference 2011 Registration Offered

Get your training and enrichment articles into the Enrichment Options & Training Tails Column editors to be considered for a complementary registration to the 2011 AAZK National Conference in San Diego.

The AAZK Behavioral Husbandry Committee will choose one article from those published between July 2010 through May 2011 in the *Animal Keepers' Forum* Enrichment Options or Training Tails columns to be awarded a FREE 2011 conference registration.

The winning author will be notified by June 2011. Only one gratis conference registration will be awarded no matter how many authors are on the paper – designation of which author of a multiple author paper is to receive the free registration is not the responsibility of AAZK or the AAZK Behavioral Husbandry Committee. The winning registration is non-transferable and has no cash value, so if the chosen author is unable to utilize the free registration another author will be selected by the Committee.

Email your articles to: akfeditor@zk.kscoxmial.com. Submissions should be submitted in MS Word only. Photos should be 300 dpi jpgs or tifs attached to the email. Be sure to include proper photos credit for each photo and suggested captions are appreciated.

Submit now for your chance to win a free Conference 2011 Registration!

AAZK Grant Report.....

Mad Fishes 2010

By Tim McCaskie, Keeper Grade 3
Toronto Zoo, Scarborough, Ont., Canada

My journey began five years ago at a Regional Aquarium workshop where I came across a talk that sparked my interest. Alex Saunders of Denver Zoo described a project working with freshwater fishes of Madagascar. I had been waiting for a conservation in which program to participate, and felt that this was it. Before I knew it, I was holding fundraisers yearly, and was lucky enough to receive financial support from the Toronto Zoo's Endangered Species Fund, a Research Grant from the American Association of Zoo Keepers, Inc., and our local Toronto AAZK Chapter. It was only a matter of time, and I was off to Madagascar with Alex and Dr. Paul Loiselle of the New York Aquarium to begin fisheries work on the Ivoloina River Basin and Lake Tseny.

Traveling by various modes of transportation, and experiencing a 19-hour flight, an eight-hour drive through rolling hills, a two-hour drive along a dirt road, and a one-hour pirogue (dug-out canoe) ride; Alex and I reached our first village, Ambodriana, in eastern Madagascar. We were traveling with a local Malagasy biologist Tsilavana Ravelomana, university of Antananarivo, who is a recognized expert in fishes or the region.

When we arrived, the kids were all curious and watched us move our gear into our shed. After we settled in and got our bearings, we hired a cook, had some lunch, and delved into our work. We went to the creek located behind the village as our first fishing spot. To get to the creek we had to walk down a bank of eroded soil on one side and the other side was lush green forest. Fishing for one hour we caught multiple *Bedotia* sp.nov. "flava" (undescribed rainbowfish), three species of goby, one eel, tadpoles, shrimp, and snails. These species are all native to Madagascar. Tilapia, an introduced food fish were also found.

We arrived back to camp in Ambodriana, and the villagers came over to watch what we were doing. They were interested to see what we had caught, and were laughing at us because we had brought back such small fish. In the Madagascar culture, the women fish for small fish, and the men fish for large fish. As we were taking pictures of the fish, the children were getting comfortable with us and were fascinated with our cameras. We took pictures of the children, and replayed the pictures for them, making friends quickly. With Madagascar and its conservation efforts, that is half the battle. If the villagers do not trust you, they will not help you with your conservation project, and without the villagers help, conservation is not possible.

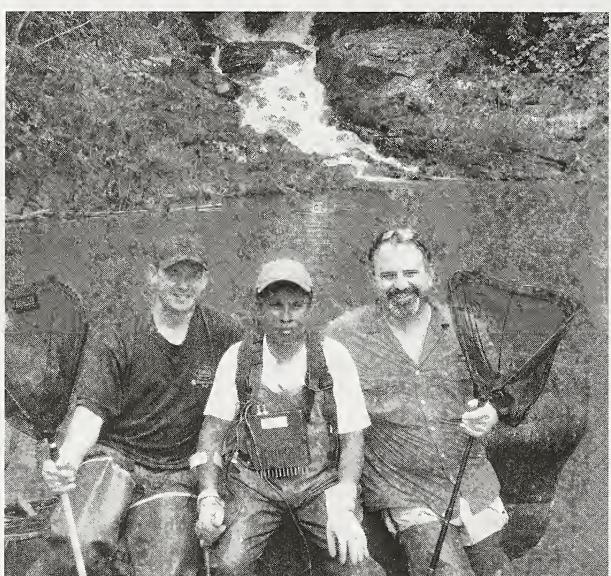
The main river (Ivoloina) has erosion along one of its banks that has led the river water quality to being very sandy and brown. The tributaries have sand a few meters up from the main river, but water quality improves beyond that stretch to clean, and clear. Most native fish in Madagascar are perceived as vulnerable due to their lack of distribution. The Toronto Zoo has three species of Madagascar fishes. *Bedotia marojezy* (listed as vulnerable) were doing fine in 1999, but this species was not to be found in 2010.

In the past, women used handmade bamboo baskets to fish. This would let the fry (young fish) fall through the cracks. We discovered that mosquito nets were being misused. Originally, the mosquito nets were given to villagers to prevent malaria. Instead, villagers used the mosquito nets as fishing

nets. Mosquito nets prove to be resourceful, and caught everything, causing the population of *Bedotia marojejy* to be extremely threatened. We are contemplating introducing some of the Madagascar breeding fishes back to Madagascar.

The second trip was to Lake Tsény. We left from Antananarivo, and experienced a 15-hour drive through burnt hills, and a half-hour choppy pirogue ride. We camped on a peninsula under the only tree used for shade in Ambario. We were welcomed instantly by the villagers. The lake was beautiful and in pristine condition. We had a meeting with the villagers to inform them of our being there, and what our goals were. After the meeting, the fisherman disappeared to their boats to fish. When

the fisherman returned that evening, they brought us our target species, three *Paretroplus menarambo*. It was thought to be extinct from 1996 to 2006. They were found in Lake Tsény in 2006, but needed our confirmation of existence. Our second day of fishing we found a variety of species of fishes including two additional *Paretroplus* species. This is the first time that three species of *Paretroplus* have been recorded in the same body of water and one is a new species entirely.



L-R: Tim McCaskie (Toronto Zoo), Tsilavina Ravelomanana (Madagascar fish biologist), and Alex Saunders (Denver Zoo). (Photo: Mize)

Years ago, Lake Kinkony was considered one of Madagascar's pristine lakes with a sustainable population of the rare *P. kieneri* and *P. dambabe*, and was comparable to the current condition of Lake Tsény.

When the Mahajanga government

changed, development began and Lake Kinkony suffered from roads being built into the lake and the lake was overfished. With Lake Tsény, we are given a second chance. Together, with conservation and education among ourselves and the villagers, we can do it right with better management.

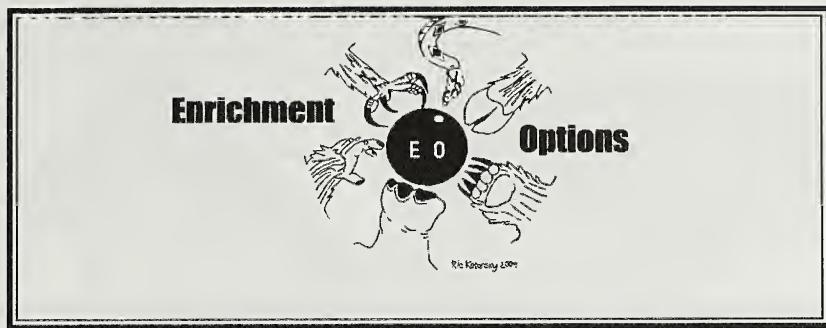
Results

Our trip turned out to be one of the most productive ones they have had. We found one species of fish (*Ptychochromoides itasy*) that has been considered extinct since the 70's. One *Paratilapia* sp. that has been extinct since the 70's or it is a new species. We have to wait till they grow up to properly identify them. We have established the presence of 49 fish species in the Ivoloina river basin, 43 native and six exotic. In Lake Tsény we have found a gem. This pristine habitat is the first to have three species of *Paretroplus* living together. *P. menarambo* was rediscovered and will be downgraded from critically endangered to endangered. We have increased the range of *P. lamenabe*, and discovered a new species of *Paretroplus* that will have to be described.

The Future

With further fundraising and support from Toronto Zoo, AAZK and friends, we can continue our work with the Malagasy biologists and our N. American zoo partners. We plan to return to Lake Tsény and conduct a population census and perimeter mapping of the area.

Please see Torontozoo.com/conservation to see more photos.



EO Editors -

Julie Hartell-DeNardo, Saint Louis, MO and Ric Kotarsky, Tulsa Zoo & Living Museum

Enrichment: The Noun versus the Verb - as written by the grammatically challenged

Since you will probably determine it somewhere down the paragraph, let me start this paper with sharing the simple fact that grammar has never been my strength. So, while I'll be discussing my perspective on the word "enrichment" and its applications in a zoological setting relative to treating it as a noun or a verb, the discussion is more about how we use the word relative to our goals and to the effects (or is it affects?) it has on the animals we care for and less to do with actual grammar. Therefore please forgive any of my unintentional grammatical errors (or intentional grammar humor) while I try to use a grammatical analogy to describe an important way of thinking about this valuable behavioral husbandry technique. The core question being: Did that enrichment item (noun) actually enrich (verb) the animal(s) to which it was given? I would argue that if the affect or consequence isn't there, then the usage of the word "enrichment" as a noun isn't accurate.

"Did you give the animals enrichment today", "They got X for enrichment yesterday", "X is species Y's favorite enrichment", "He didn't like his enrichment today", ...

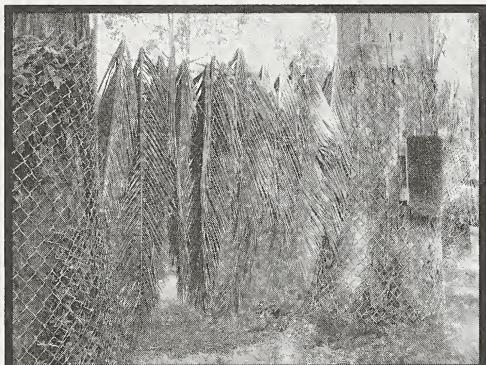
While we use many diverse items, objects or supplies for providing enrichment opportunities to the animals we care for, it is the actual consequence of those tools wherein the real power of enrichment as a behavioral husbandry technique lies. It's less about what tangible items we gave and more about what we provided (opportunities, choice, control, variety, novelty...) or changed (behavior patterns, activity budgets, social interaction, behavioral repertoire, stereotypes,...). So rather than thinking about what enrichment (noun) you'll give to an animal, think about how you will enrich (verb) that animal.

What behavioral opportunity or changes will result from the application of an enrichment strategy chosen by a keeper knowledgeable in the individual animal's history, the species' natural history and the nuances of the exhibit or holding space? Some types of enrichment naturally lead themselves to this mode of thinking. For example, different feeding strategies such as spreads or scatters – the food (noun) is typically consistent for specific animals, but the presentation method of randomly tossing or strategically placing individual food items throughout a habitat can make that same food enriching and promote a change in behavior patterns, increase activity, promote exploration, facilitate interactions and so much more.

This is not meant to take away from those great, creative and fun enrichment objects (nouns) that we all enjoy watching animals interact with, explore and sometimes destroy (all verbs by the way). If they are promoting changes in behaviors, creating opportunity for new behaviors, providing novelty or variety, or providing opportunities for choice and/or control in the animals' environment, then they

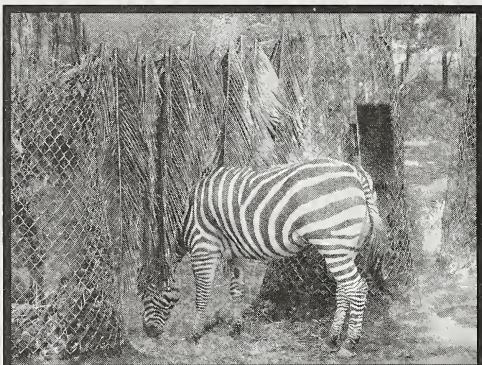
are enriching. Of course, we should always keep in mind that not all of these responses and affects are going to be large grandiose displays, nor should they be. Enriching an animal can be very subtle & hard to detect by even the keenest keepers eye. And sometimes those things that seem subtle to our limited human senses may actually be much more significant to species and taxa with different ranges and types of behaviors than our own. So, the next time you are filling out your keeper records and go to check the enrichment box take a quick moment to ponder on whether you provided enrichment to an animal or if you enriched an animal's life.

Enrichment



Hung palm browse

Enriching



Zebra grazing under palm browse; they rubbed on browse, walked under it, and nibbled on it, took longer to consume daily hay ration and increased activity.

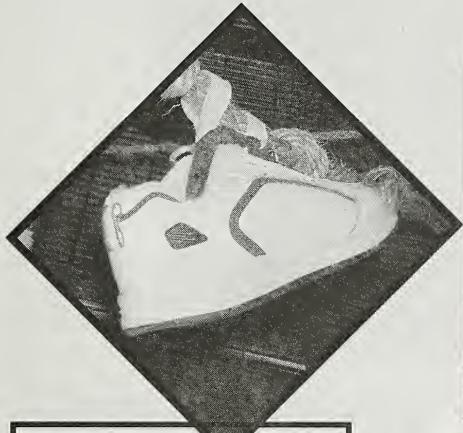


Scarecrow stuffed with straw



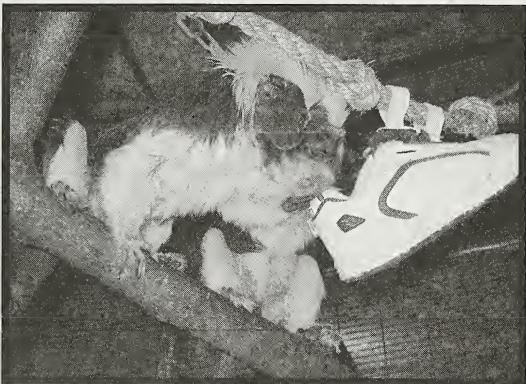
Free-flight aviary birds (including the hammerkop, plover, weavers, ducks and others) investigated scarecrow, vocalized more, ate insects hiding in straw, took straw for nest building, and rested in straw piles)

Enrichment

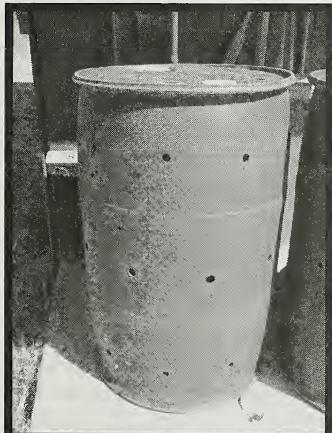


Kid's shoe - one of the many frequently found under skyrides or aerial trams (after thorough disinfection).

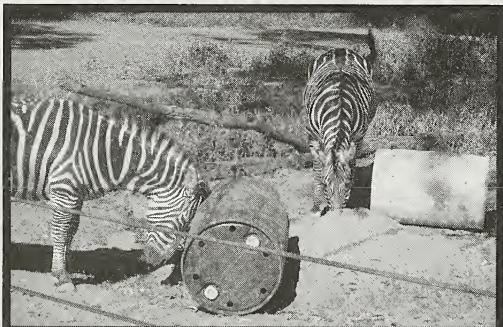
Enriching



Kid's shoe used to hide tamarin diet that increased activity, increased positive social interactions, increased foraging time and increased investigative and foraging-related behaviors.



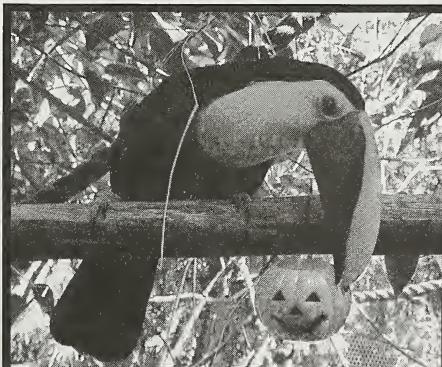
Big blue plastic barrel with small holes drilled in it.



Zebra using nose/head to nudge blue feeder to cause grain or other food item to come out, increased activity, increased investigative behaviors decreased flight response and associated stress response, and increased foraging time, while choosing to interact with object providing novelty & diversity.



Small plastic pumpkin



Toucan investigating object, foraging among multiple objects to find ones with food, returning to all numerous times, increased activity, choice provided, novel tactile and visual stimuli, and increased exhibit/space usage.

Building a Red River Hog Restraint from Scraps

By J. Blessington, Keeper III, K. Wanders, Keeper III
Kansas City Zoo, Kansas City, MO USA

(Editor's Note: This paper was originally presented by the authors as a Poster at the 2009 AAZK Conference in Philadelphia, PA)

Ekundu, our male Red River Hog (*Potamochoerus porcus*), was born on 8 July 1995 and came to Kansas City on 5 April 2003. For the first couple of years in Kansas City, he lived and was exhibited in our Bomas area. While in Bomas, the staff had free contact with him and did a great deal of tactile interacting. A weight board conditioning program was also started. From January of 2004 until his death on 22 April 2009, he was housed and exhibited in our Bongo area. After moving to Bongo, he was in a breeding situation. Because of the set-up in the current barn and the breeding situation, there was no longer free contact with him.

In 2008 at ~13 years of age, he started to develop various medical issues including chronic weight loss. Due to his declining health and the need to investigate the cause of various illnesses, it was decided that we needed to utilize a pig 'restraint'. As with many institutions, finances are limited and purchasing a specialized restraint was not an option. Several years prior, a pig restraint was built but had never been used. Staff at the time collected scrap materials and put together their very own 'red river hog restraint' made out of 2"x4" planks, 3/4" plywood, 3/4" metal piping (spaced 3 1/2" apart) and 4"x4" panel wire.

The mobile restraint was placed in the hallway adjacent to the keeper shift door. Because the restraint was not a tight fit within the shift door, some safety modifications were made to prevent injury to the keepers and the animal. One baffle board was placed on top of the restraint in the shift door and another was placed on the ground between the restraint and shift door frame. 4"x4" wire panel 'gates' were chained in place at both the front and back of the restraint (the back was closed once he had entered). (see Photo 1)

Ekundu, like many hogs, was highly food-motivated. Simply by offering his daily diet of fruits, vegetables, grain, and a few 'special' treats like peanut butter, we were able to perform procedures that lasted anywhere from five minutes to ~1 hour. On the rare occasions that he was not food-motivated, scratching was used as a tactile reinforcement.

The restraint has been utilized for several procedures during 2009:

- Weights (Photo 2)
- Manipulation of prepuce and hydrotherapy (Photo 3)
- Jaw abscess aspiration and lance (Photo 4)
- Ophthalmic treatments (Photo 5)
- Abdominal ultrasounds (Photo 6)
- Hoof treatment (Photo 7)
- Blood draws (phlebotomy) (Photo 8)
- Indirect blood pressures (Photo 9)

Another procedure that can be performed in the restraint is radiographs. The metal piping can easily be removed and replaced with PVC pipe.

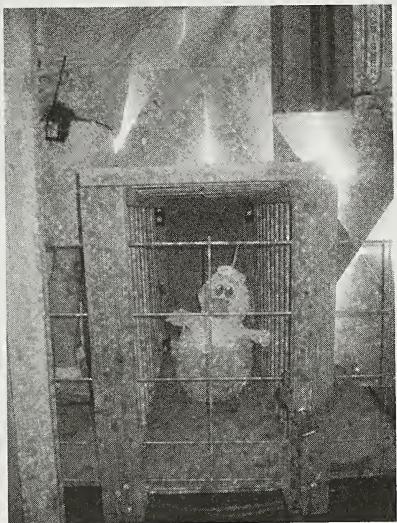
Overall, this restraint made from scraps has been an invaluable tool. You never know what you can build with a little imagination, wood, metal and desire.



1a



1b



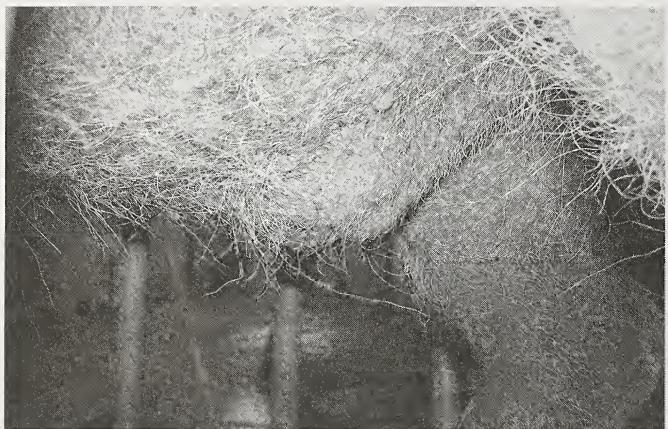
1c

1. Restraint: The restraint measures 17" deep x 26" high x 49" long (animal area). (1a) Baffle boards are utilized as additional security to block open areas on the top and side of the restraint when entering and exiting. (1b, 1c) The 'gates' are secured with chain and locks.

2. Weighing: Animal presented a change in body conformation, which indicated a potential drop in weight. Animal was weighed on a regular basis to monitor weight change. An increase in diet and separation from female for feedings was implemented.



2



3. Prepuce: Animal presented with a swollen prepuce about the size of a softball. Treatment included preputial expression which expelled both urine and preputial plugs (build-up of debris). Hydrotherapy was performed after the expression to reduce swelling.

3



4a



4b



4c

4. Jaw abscess aspiration and lancing: Animal presented with a golf ball size swelling on upper right jaw area (4a). Diagnostic procedure included attempted aspiration of the swelling (4b). A topical lidocaine was applied to numb the area. Aspiration did not reveal cause of swelling. On a second occasion, the swelling was injected with lidocaine in preparation for aspiration (4c). Aspiration revealed purulent material and the abscess was opened. Broom handles were used during this procedure to reduce the amount of head movement.



5a



5b



5c



5d



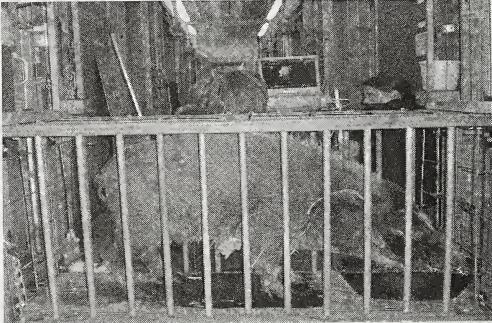
5e

5. Ophthalmic exam and treatment: Animal presented with a swollen right eye (5a) that was draining a white discharge. Procedure included performing an ophthalmic exam, then administering stain (5b) to look for corneal ulcers (5c). After staining, a saline flush (5d) was instilled followed by ophthalmic ointment and atropine drops (5e).

6. Abdominal ultrasound: As a follow up to the potential high blood pressure and continued decline in overall health, an ultrasound was performed to evaluate the liver and kidneys (6a, 6b). The liver was found to have a normal appearance and investigation of the kidney and spleen was cut short due to patient agitation. This was likely due to the fact that another procedure had already been performed prior to the ultrasound, making this the longest period of time that he was in the restraint. Additionally, he was not very food motivated that day as his overall appetite was declining.



6a



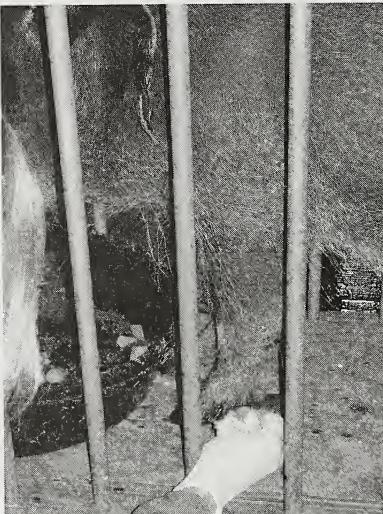
6b

7. Hoof treatment: Animal presented with lameness on front left leg. Procedure included physical exam of hoof where overgrown sole and vertical crack were discovered. Kopertox was then applied to the hoof (7a, 7b).



7a

7b



8. Blood draw: Animal continued to present with overall declining health issues. The first attempt was to draw blood from the saphenous vein of the rear leg. This was unsuccessful. The second attempt was to draw from the aural vein on the ear. A topical lidocaine was applied to numb the area. This attempt was also unsuccessful as the animal was no longer willing to participate. Another blood draw was not tried before the animal was euthanized. Broom handles were used during this procedure to reduce the amount of head movement.



8

9. Indirect blood pressures: Animal presented with nasal bleeding (epistaxis), which can be related to high blood pressure. High blood pressure can also be a symptom of pheochromocytoma, which is a tumor in the adrenal gland. Procedure was to collect three sets of blood pressure readings. Ultimately, the animal health team collected readings on three different occasions with five readings at two different sites on his body for a total of 30. Blood pressures were collected from the left rear leg using a #5 small animal cuff (9a, 9b) and from the tail base using a #4 small animal cuff (9c, 9d). It was determined that his blood pressure values were high when compared to values for warthogs and domestic pigs under Anesthesia. Obtaining these values was not only relevant to determining health status of Ekundu but for the species as a whole. There are no current published blood pressure values for Red River Hogs. The values obtained will be used in future data collection comparisons at both the Kansas City Zoo and in the zoo community.



9a



9b



9c



9d

Acknowledgements

We would like to thank the entire Baobab team members past and present, the Animal Health staff, the Animal Curator staff and the Kansas City Zoo.

Footnote: After battling many different medical issues, Ekundu passed away on April 22, 2009. The cause of death was due to an adrenal gland tumor (pheochromocytoma), which may have contributed to many of the medical problems that he faced in his last year. This poster was dedicated to him.

(Photos provided by the authors)

Training Two Separate Behaviors to Draw Blood from 2.0 Spotted Hyena

Utilizing Operant Conditioning with Positive Reinforcement

By Laura Morrell and Mike Murray, Predator Ridge Zoo Keepers
Denver Zoo, Denver, CO

Abstract

At Denver Zoo, training spotted hyena (*Crocuta crocuta*) using operant conditioning has proved to be more than helpful in their mental and physical care. We are still learning about their extreme intelligence which is often compared to that of the great apes. Over the past years, we have trained the hyena behaviors to allow hand injections in their hip area, allow staff to look into their mouth, allow keepers to regularly weigh them, and allow staff to apply wound treatments when needed. The next challenge for us was to establish a reliable blood draw behavior. With advice from our vet and managers, we decided to train a blood draw behavior with our two adult males. The opportunity arose to train this behavior in two different ways. 1.0 Thika was trained a ‘neck’ behavior which gave the vets access to his jugular vein. At the same time, 1.0 Kibo was trained a ‘leg’ behavior which gave the vets access to his lateral saphenous vein in his left rear leg. Both of these behaviors confirmed how intelligent these animals truly are. The training process presented obstacles with both behaviors which we overcame. Our vets currently have the ability to effectively draw blood from either male which demonstrates the strengths of a training program founded on the principles of positive reinforcement.

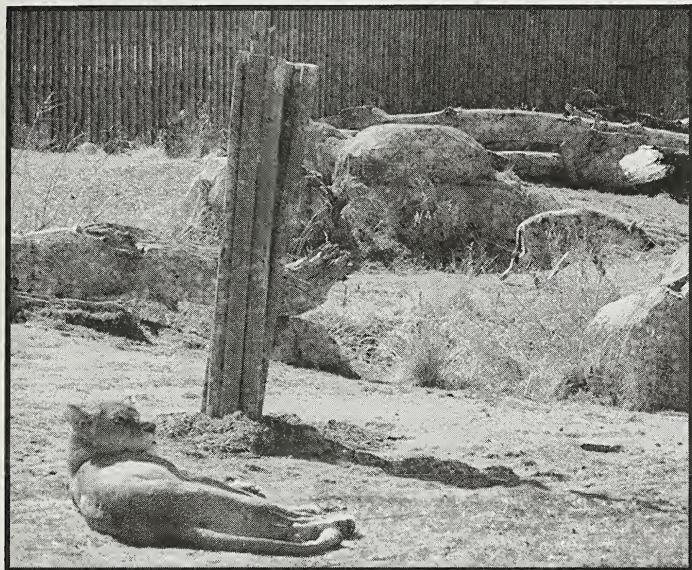
Introduction

The spotted hyena (*Crocuta crocuta*) are predators that live in large social groupings known as clans and live in a variety of environments throughout sub-Saharan Africa. The spotted hyena have an incredible intelligence that is often compared to primates and is demonstrated by the hyena collaborating on projects such as hunting on the plains of Africa and solving puzzles in captive settings (Holekamp et al., 2007). These extremely adaptive carnivores are unique in many ways including their complex social structure that is completely dominated by females. Males, at the bottom of the totem pole, are frequently subjected to fighting with each other to maintain a dominant rank and avoid being forced out of the clan. This constant struggle elicits aggression between males that results in common neck injuries and open wounds. The results of these intense battles often heal quickly due to the hyena’s strong immune system and pain tolerance which is another unique feature of the spotted hyena.

Alongside South African lions (*Panthera leo Krugeri*) and African wild dogs (*Lycaon pictus*), spotted hyena have been housed at Denver Zoo’s Predator Ridge since 2004, to educate people about social carnivores in an award-winning rotational exhibit. All of the animals in Predator Ridge, including hyena, have been participants in an elaborate training program that allows them to assist in their own health care as well as provide mental and physical stimulation. Denver Zoo houses 2.1 spotted hyena adults and throughout the years there have been five litters producing seven cubs total. When our hyena arrived, our female Ngozi chose to mate with Kibo over his brother Thika. This resulted in Kibo consistently asserting his dominance over Thika by attacking him and causing reoccurring wounds to his neck and body. The training program has allowed us to closely monitor the condition of the hyena, treat any wounds, give injections, achieve bimonthly weights, and avoid stressful immobilizations. Our next challenge was to institute a voluntary blood draw behavior.

Methods

The first step to training a blood draw behavior with the hyena was to determine how this was going to be accomplished. Meetings were held with management and vet staff to discuss the most ideal



A view of two exhibits at Predator Ridge with lions and hyena
(Photo: Mike Murray)

way to approach this task. At the time of discussion, we chose to train a blood draw behavior in the two males because they had a positive relationship with the vets and a solid injection behavior. Our female, at the time, had a set of cubs and was still focusing on other behaviors of importance. Based on the incredible intelligence of spotted hyena it was decided that training a blood draw behavior could be achieved in multiple ways. It was determined that it would be possible to train Thika to present his neck to draw blood from his jugular vein while

training Kibo to present his left rear leg to draw blood from his lateral saphenous vein.

Methods of Training Thika

The decision for choosing the jugular vein for Thika's blood draw was based on several factors. One justification was that hyena successfully allowed this blood draw at previous institutions, i.e. Moorpark. Secondly, Thika frequently offered his neck to keepers since he enjoyed being scratched with a backscratcher. Due to the fact that Thika is the subordinate male, he occasionally has neck wounds and we are able to treat his wounds with ointments and sprays. This de-sensitivity to touch was favorable in helping the decision to train this specific behavior.

The following were the training steps for Thika's 'neck' behavior:

Step 1: Informal training sessions without diet because if diet was present he would have no interest in being scratched. Trainer approached Thika with a backscratcher. Thika presented a side of his neck to be scratched. Bridged (whistle) and reinforced this behavior. Rewarded with more scratches.

Step 2: Similar to Step 1. While using the backscratcher, trainer shaped his neck position to where the under side of his neck is flushed against the mesh while his face is upwards. Bridged and reinforced using scratches.

Step 3: Once Step 2 was consistent, diet was added to the training session while phasing out the use of the backscratcher. Transitioned to the visual and verbal cues.

Step 4: Once the behavior was accomplished with both the visual and verbal cues, duration and the presence of a second person was added.



Hyena being scratched with a backscratcher.
(Photo: Laura Morrell)

Step 5: Tactile was added next with three different touch points performed by the second person. The first tactile was with a backscratcher to imitate a vet finding the vein while saying the word “touch.” Then a syringe was used for the second touch while saying “poke.” Finally another backscratcher touch was used for the last hold off whilst saying “hold.” After all three of these tactile steps were performed, then the primary trainer bridged and reinforced.

Step 6: Integrated the vet staff and drew blood from his jugular vein.



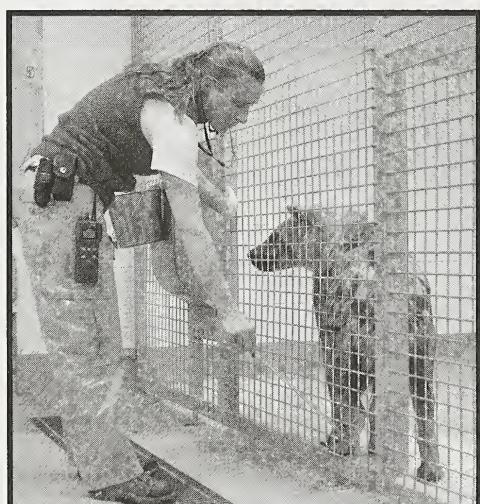
Practicing Thika’s ‘neck’ behavior with second person performing tactile.

(Photo: Shaina Aguilar)

Methods of Training Kibo

Based on the success of training a blood draw behavior with African wild dogs (Carroll-Vasquez and King, 2004) through their lateral saphenous vein, we decided to use this same behavior with Kibo.

The following were the training steps for Kibo’s ‘leg’ behavior:



Trainer leg targeting Kibo.
(Photo: Erin Schaefer)

Step 1: While Kibo was in a ‘side’ position, keeper target trained his left rear leg towards the mesh while saying ‘leg’. Bridged with whistle and reinforced with diet.

Step 2: Trained Kibo so his leg touched the mesh wherever the target was positioned.

Step 3: Phased out the target stick so Kibo responded only to the verbal cue.

Step 4: Worked on duration and added a second person.

Step 5: Introduced tactile with a backscratcher. Initially, second person touched Kibo’s hip area which is where he was used to receiving injections. Gradually Kibo was touched lower and lower on his leg, over multiple sessions, until he was comfortable with us touching his lateral saphenous vein area.

Step 6: Added tactile in a three-point series. First, the second person touched Kibo with a backscratcher while saying ‘hold.’ The second touch was used with a syringe while saying ‘touch.’ Again using a backscratcher, the second person touched Kibo whilst saying ‘hold.’ Once all of these were accomplished, the primary trainer bridged and reinforced.

Step 7: Integrated vet staff and drew blood.



Authors training ‘leg’ with Kibo.

(Photo: Erin Schaefer)

Conclusion

Based on the training methods used, we were repeatedly able to successfully draw blood from Thika. Thika’s positive training resulted in a successful ‘neck’ blood draw behavior which could have been influenced by several reasons. As mentioned earlier, Thika allowed us to frequently treat his wounds that led to desensitization of his neck. Two challenges we had to overcome were that 1) wound treatments would be a priority and 2) a switch in trainers occurred. In spite of this Thika learned this behavior in approximately two months.

Using the stated training steps, we have been able to draw blood once from Kibo at time of this writing. Although we still consider this behavior a success, we are encountering challenges that include Kibo regressing with this blood draw behavior. Currently, we are trying to reintegrate the vet staff on the tactile steps that include the use of the backscratcher and the syringe. The behavior is solid until the actual stick of the needle; Kibo regresses when the needle needs to be redirected in search for the vein. One possible reason for this regression is natural hyena behavior; male hyenas often attack other males’ back legs when either chasing them out of a clan or fighting for dominance (Kruuk, 1972). This sensitive area of the back legs could contribute to his regression. A possible second reason is that Kibo is dominant and receives fewer wounds that need to be treated. Therefore, Kibo is touched less frequently in our training program than Thika. Lastly, Kibo’s training motivation drastically decreased when Ngozi cycled even though they were never housed together during this training process. Despite these challenges, we are confident that we will be able to draw blood from Kibo again.

We encountered challenges that affected both of these individuals during their training process of these successful blood draw behaviors. A major training challenge was, and still is, coordinating the often busy schedules between the keepers and the vet staff. Another obstacle with all of our training programs is the design and use of this rotational exhibit. Since this building rotates four social



Lions and hyena are housed across from one another.

(Photo: Laura Morrell)

process. Despite these challenges, Kibo and Thika still learned their respective blood draw behaviors in a few short months and we are able to ask for these behaviors in any location.

In the future, there are many opportunities in our hyena blood draw training program. For instance, we hope to strengthen Kibo's 'leg' blood draw behavior. Another training option would be for us to train Kibo 'neck' and Thika 'leg'. This behavior 'swap' could test which behavior is more reliable to draw blood consistently from spotted hyena. Lastly, we hope to establish a blood draw behavior in our adult female Ngozi and our newest male clan member, Kai, who at the time of this writing was only eight months old.

Acknowledgements

We would like to recognize Heather Genter who was the primary trainer for Kibo's 'leg' behavior and Shawna Brown who was the primary trainer for Thika's 'neck' behavior. We would also like to thank our fellow Predator Ridge keepers Andrew Rowan and Shaina Aguilar, Dale Leeds – Curator of Large Mammals, Vickie Kunter – Large Mammals Supervisor, Emily Insalaco – Curator of Behavioral Husbandry, and Dr. Felicia Knightly, D.V.M. for all of their guidance and support.



Kai, at seven months, receiving scratches with a backscratcher.
(Photo: Laura Morrell)

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(Editor's Note: This paper was originally presented at both the 2010 AAZK National Conference in Philadelphia, PA and the 2010 ABMA Conference in Pittsburgh, PA.)

New AAZK Logo Fleece Vests Available

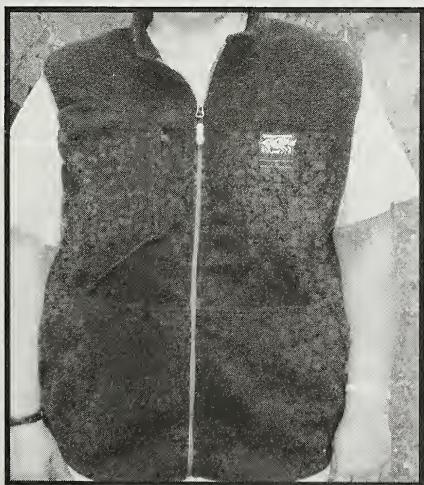
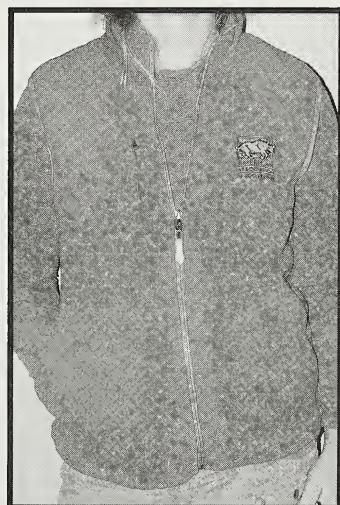
With the exception of duct tape, nothing is more versatile than a fleece vest. These vests are functional, comfortable and stylish. Use them as a layer to keep your body core warm or as an outer layer on cool spring or fall nights out. Men's and women's cut made of 80% recycled polyester with breast and front pockets, full zipper, collar, and detail trim.

Available in women's sizes XS-XL in red, cream, lime green, and black. Available in men's sizes XS-XXL in black, navy, and red. Full color AAZK logo on black and navy colors, grey scale logo on other colors.

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See on AAZK website (www.aazk.org) under "SHOP" for color view of the vests, pricing, and to place your order.

Photos (clockwise): Women's Red Vest, Women's Cream Vest, and Men's Black Vest.



Chapter News. . . .

Buy a Pumpkin, Save a Bat

Each year the Lake Superior Zoo puts on an event for Halloween, "Boo at the Zoo". We have been lucky in that it generally draws in quite a crowd of costumed kids and adults alike looking to trick or treat on zoo grounds and of course take in the sights of the animals. This year the Lake Superior Zoo's Chapter of American Association of Zoo Keepers thought to take advantage of this popular event to raise awareness and funds for a conservation group. Going with the theme of Halloween we decided to choose an organization helping bat populations around the world, Bat Conservation International (BCI). Our Chapter decided that for a Halloween fundraising event it would only be fitting to sell pumpkins, thus started "Buy a Pumpkin, Save a Bat"!

We set up a booth and pumpkin patch where kids could run around and pick out the perfect pumpkin while zoo keepers informed people of BCI and especially White Nose Syndrome. Instead of bogging people down with lots of pictures and words, we drew many curious people in with having our education African Straw Colored Fruit Bat (*Eidolon helvum*) with us at our table, acting as an ambassador for bats, letting people get an up-close view so they could calm their fears of these "blood-thirsty villains". Once people heard a little bit about BCI and their efforts towards researching White Nose Syndrome, many people were more than excited to buy a pumpkin and even make a donation. In two days we sold 160 pumpkins, totaling \$280 going to BCI. Having learned from this year we are excited to outdo ourselves this next Halloween, all in the name of saving bats! *Submitted by Christian Johnson, Zoo Keeper, Lake Superior Zoo, Duluth, MN*



Saint Louis Zoo Honors Zoo Keepers

Last July, a wonderful event occurred during National Zoo Keeper Week. The St. Louis Zoo commemorated its zoo keeper staff by dedicating a bronze plaque in the South Gate Brick Plaza. The plaque, representing past, present and future zoo keepers, has the phrase —Zoo Keepers, Guardians of Wildlife celebrating their efforts. Zoo keepers dedicate a large portion of their lives to conserving wildlife, enhancing husbandry protocols and enrichment through hard work and compassion for the animals. Each day they educate visitors and each other with the hope they can excel in preserving habitats and wildlife for the world's future. You can view the plaque in the South Gate Brick Plaza to the right of the Hermann Sea Lion Fountain. The St.

Louis Chapter of the American Association of Zoo Keepers is very proud to be a part of the St. Louis Zoo. *from DIRECTOR'S DIARY, February 4, 2011, Saint Louis Zoo, St. Louis, MO (Photo: Rick Smith)*

(Editor's Note: If you have news about what's happening in your AAZK Chapter, send to AKF Editor at akfeditor@zk.kscoxmail.com<. Submit text in MS Word only. Photos should be submitted as separate jpg or tif files in high resolution [300 dpi minimum]. Share your Chapter projects and programs in AKF!)

CONSERVATION

STATION



One Week Inspires Lifetimes of Change: Polar Bears International Keeper Leadership Camp 2010

*By Amanda Kamradt
AAZK Conservation Committee Chair
Zookeeper – Zoo New England, Boston, Massachusetts*

September 2010 marked the second annual Polar Bears International Keeper camp in Churchill, Manitoba. This camp, a collaboration between Polar Bears International (PBI) and AAZK, is designed to empower zookeepers to take action against climate change. As zookeepers, we are passionate conservationists and have a unique rapport with the guests who visit our institutions. As such, we are in a distinguished position to educate and inspire change in countless individuals. This camp provided delegates with the education, skills, confidence, and support necessary to make the most of this unique opportunity and duty we have.

September 27th was the first time many of us had seen the arctic tundra, and upon our arrival, were amazed at its beauty. The landscape was adorned in rich shades of gold, purple, and brown. Majestic inukshuk structures built by native Inuits stood along the shore of Hudson Bay. Ferns and mosses of countless species covered the ground, and massive boulders donned lichens in every color imaginable. We spent the day touring the city of Churchill, absorbing its beauty, and acquainting ourselves with the place that would be our home for the next week. Manitoba Conservation personnel educated us about how they reduce human-bear conflict through the Polar Bear Alert program, and we had the privilege of seeing a bear air-lifted to a remote area after it had wandered into town and been held at the Polar Bear Holding Facility. Churchill residents, Jim and Betty, taught us about the culture of the native people, and about how they had lived off the land for their entire lives by practicing sustainable trapping. We were inspired by the reverence so many people had for the wildlife of Churchill, and their commitment to helping the people and animals of Churchill live in harmony with one another.

The inspiration we experienced on the first day continued on through the rest of the week in the Tundra Buggy™ Lodge. Each morning we rose early and each night we stayed up late. We learned about the science of climate change and the plight of the polar bear. We engaged in passionate discussion, practiced our leadership skills, and learned from our fellow zookeepers. Through video-conferencing we were able to connect with top scientists, PBI personnel, zoos and school groups across North America. We were students and teachers, planners and dreamers. To find the inspiration necessary to mitigate climate change, we needed only look out the windows of the Tundra Buggy™ to the majestic bears prowling outside. One look into the soulful brown eyes of a polar bear, and we understood the plight they faced, and the duty we had to reduce our carbon footprints and inspire change in our communities. Two incredible afternoons were spent watching a mother polar bear and her two cubs, and we knew we had a duty to secure a future for those cubs.

At the conclusion of camp, we departed Churchill armed with the knowledge and motivation necessary to inspire change. We were charged with enormous responsibilities, but responsibilities that we knew we would meet. After all, we are zookeepers, and zookeepers know how to make things happen.



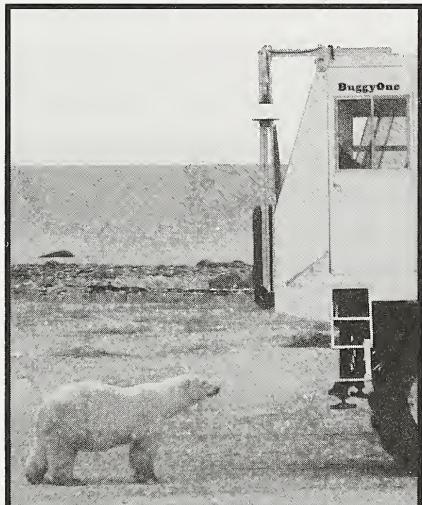
A bear that wandered into a residential area is air-lifted to a remote location after being held in Churchill's Bear Holding Facility for one month. (Photo by Amanda Kamradt)



Representatives of AAZK National pose by a Polar Bear Alert sign. From left to right are: the Conservation Committee Chair Amanda Kamradt; Professional Development Committee Member Mike Murray; and Board Member Penny Jolly. (Photo by Kathryn Foat)



Campers spent two afternoons observing this mother bear and her ten-month-old cubs. (Photo by Amanda Kamradt)



A sub-adult male bear passes by the Tundra Buggy Lodge® (Photo by Amanda Kamradt)



The cubs play alongside the Tundra Buggy™
(Photo by Amanda Kamradt)



A polar bear waits for Hudson Bay to freeze.
(Photo by Amanda Kamradt)

TAKE ACTION NOW

Probably the most important message conveyed through camp is that climate change is not a hopeless situation. Humans have created this problem, and likewise, we can solve it. Here are a few things each of us, and our AAZK chapters, can do right now to help combat climate change:

- 1) Participate in Acres for the Atmosphere (founded by the 2009 graduates of PBI Keeper Leadership Camp) by planting trees and promoting green-living in your communities.
- 2) Reduce. Reuse. Recycle. In that order.
- 3) Increase gas mileage by obeying the speed limit, bringing your car to stops gradually, and taking your foot off the gas pedal and allowing your car to coast. Remember to carpool when possible.
- 4) Look for ways to be green on the job. Is there a way you could use less water? Could you reduce the number of plastic bags or paper towels you use? Could you increase heating and air-conditioning efficiency by opening doors less or doing minor repairs on the buildings? Keep an eye out for opportunities to establish green habits, and encourage your co-workers to do the same.

Acknowledgements

I would like to thank...

- Polar Bears International, the American Association of Zoo Keepers, Inc., and Zoo New England for the opportunity to attend the Polar Bears International Keeper Leadership Camp 2010.
- Frontiers North Adventures, Sheraton Four Points Winnipeg Airport Hotel, Canada Goose, and Calm Air for sponsoring the Camp.
- All those who attended and/or helped plan the Camp for this once-in-a-lifetime experience.

Resources and Further Reading

www.aazk.org/aazk-and-polar-bears-international/

Mann, M.E. and L.R. Kump. *Dire Predictions: Understanding Global Warming.* DK Publishing, Inc. New York, 2009.

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Shome, D. and S. Marx. *The Psychology of Climate Change Communication: A Guide for Scientists, Journalists, Educators, Political Aides, and the Interested Public.* Columbia University, Center for Research on Environmental Decisions (CRED), October 2009.



Inukshuks on the shore of Hudson Bay.

(Photo by Amanda Kamradt)

Big Cat Internships Available Join us in “Saving Tigers One by One”

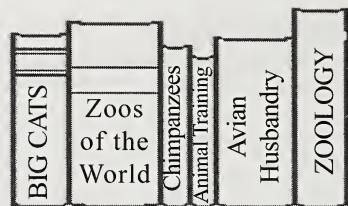
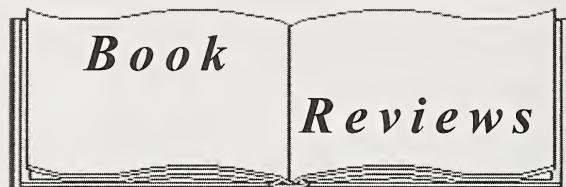


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Manatee Insanity:

Inside the War over Florida's Most Famous Endangered Species

By Craig Pittman, 2010

University Press of Florida, 15 NW 15th St., Gainesville, FL 32611

ISBN 978-0-8130-3462-1

Cloth, 444 pages, \$27.50

Review by Gregory C. McKinney
Lansdale, PA

For the Florida manatee (*Trichechus manatus latirostris*), 2010 continued the trend evident from the year before. Aerial observation surveys revealed the highest ever recorded state count. Following these counts, and predicted by those who study the manatee, mortality rates were found to be higher than they had ever been since data started being collected in 1974. The reason for both of these records is the same: cold weather. Stress from the cold is considered to be responsible for over one-third of the 767 reported deaths—up from the 2009 total mortality and previous record of 429. Cold weather is also considered to be the primary factor in the record breaking aerial counts as so many manatee congregate together at warm water sites, including those generated by power plant drainage, making for a more accurate, conspicuous tally.

It has yet to be seen if these statistics will result in any change to the present status of the manatee. But it is almost certain that debate will carry forward. The International Union for Conservation of Nature gives, as justification for its endangered status to the Florida sub-species of the West Indian manatee:

The Florida manatee subspecies is listed as Endangered on the basis of a population size of less than 2,500 mature individuals and the population is estimated to decline by at least 20% over the next two generations (estimated at ~40 years) due to anticipated future changes in warm-water habitat and threats from increasing watercraft traffic over the next several decades.

The population sum of 2010 revealed twice as many individuals as listed on the IUCN's population size estimate. A total of 5,076 animals were counted. This total count represents the minimum number of individuals, up by more than a thousand animals from the previous record set in 2009.

The threat of the effect of cold weather was one of the reasons that the IUCN decided to change the status of the Florida manatee from “vulnerable” to “endangered” in 2007. The change to the IUCN’s Red List was made against the outcry of boating groups and marine contractors and even despite recommendation from the US Fish and Wildlife Service to downlist the species to “threatened” on their endangered species list. It is the 2007 vote of Governor Charlie Crist’s appointed wildlife commission to potentially downlist the manatee that concludes Craig Pittman’s detailed account, *Manatee Insanity*.

After a quick history of the manatee as the good-eating mermaid of lore, and of the Florida waterways as an up and coming solid investment, most of the book takes place in the years following the enactment of the Endangered Species Act in 1973. The Florida Manatee has been protected under the ESA since its inception. The manatee plays a subservient role in the book—we don’t meet Snooty, the oldest captive manatee, until the very last pages—but *Manatee Insanity* has a large human cast. There are politicians: Governors Crist, Bush, Chiles, Graham, even Secretary of State Katherine Harris, who actually voted against the development of a Miami marina in an aquatic preserve, making an appearance. There are celebrities: Jimmy Buffet, of course, but also Gloria Estefan, who was so shook up after a boating accident leading to a jet-skier’s fatality that she went on to champion a bill to require new boaters to take a safety course; and O.J. Simpson, who was fined for violating a manatee speed zone in 2002 (he pled not guilty to this too).

Along with the politicians and celebrities and well-known conservationists like Jacques and Philippe Cousteau, are the lesser known but infinitely more significant individuals who have made an impact on (or against) manatee protection. Their efforts and accomplishments and in many cases early biographies are laid out in great detail. In most cases, the story remains impartial, allowing the actions and/or inactions to speak for themselves in a causal style. Pittman does step out of this linear narrative to warn of future difficulties in the conservationist's argument, relying on the first inadequate counts as indicative of an accurate assessment of the manatee population. With so much more to use it is a wonder that the environmentalists relied so heavily on the very early, highly suspect count. After all, it is not just the number of individuals that makes a species worthy of endangered status. The Florida manatee has a relatively small and limited territory which it shares intensely with man and all of his recklessness. The manatee is at risk to suffer from periods of cold, red tide, and environmental catastrophe which could result in wide spread fatalities. By continuously and loudly stressing the early year low counts and estimates the conservationists set themselves up for the inevitable fall.

The battle to establish and enforce manatee speed limits is well presented throughout the book. And the inability to reach an agreement on such is frustrating. Water craft collision is one of the leading causes of death in manatee (and also in the endangered North Atlantic right whales (*Eubalaena glacialis*), where speed restrictions are enforced throughout the year despite the cost to the shipping industry) but it is not fatalities alone that are at issue. Any visitor to Sea World Orlando, Lowry Park, or Disney's Animal Kingdom, knows that the manatee residents are in rehab. Those that are present have been found with injuries, sometimes near-debilitating. Some have been struck and sliced a multiple number of times. The condition of these manatees when they are healthy enough to be released is more the rule than the exception. The patchwork of scars across a manatee's back can serve to uniquely identify an individual, at least until its next collision. But still there are those who appear to be ignorant. Pittman details one such individual from a 2003 vote to downlist manatees:

Jim Kalvin of boating rights group, Standing Watch "questioned the use of Cathy Beck's scar catalog, suggesting that using the photos of repeatedly injured manatees as the basis for any study was just a sneaky way to lowball the predictions about the species' future. Instead, he said, "we would like to base our population on the healthy stock." He was apparently unaware that finding a stock of unscarred manatees might require importing some from Belize."

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Of interest to me as I read the book, was the suggestion by then Senator Crist to equip all boat motors with a propeller guard. I had often wondered this myself but had assumed that, given the vegetation and sea grass of the Florida wetlands, such a thing would gather debris and make the motor unusable. I was surprised to read that the idea was shot down not for matters of inefficiency but strictly for its additional cost.

Admittedly, I did not know very much about the Florida manatee before reading *Manatee Insanity*. I don't know much more now. But this book was not written to be an animal behavior text. There are other books, some from the same publisher, listed in the bibliography for that. But still, I feel that the multiple stories of legislative inaction, the description of the stubborn and nonproductive infighting within the conservation groups, the improperly fought arguments and the injustice of the loopholes and exceptions given to developers, fishing guides and others, could have benefitted by the inclusion of more anecdotal and observational detail of the manatee's natural life.

For all its comprehensiveness, *Manatee Insanity* comes to an abrupt halt, with a feeling of incompleteness, especially considering the events of the years following, such as the Deepwater Horizon oil spill and the cold water of 2009-2010. It remains to be seen just what actions may result from the 2010 count, a minimum count that is greater than the state's carrying capacity as estimated by Michael Runge of the US Geological Survey in 2002. I don't believe that I have ever felt as exhausted after reading a non-fiction book as Pittman's narrative left me. It was not the length of the book as much as the frustratingly repetitive stories of legislative inaction. As I found myself nearing the end of each chapter I soon realized that relief was not in sight and I would be finding the same tale being told from a different county, a different year. Craig Pittman has been studying and writing on the manatee and Florida wetlands for the *St. Petersburg Times* for over a decade. There can be no more authoritative complete text on the subject but for that reason, at least for this animal behavior enthusiast, the book, *Manatee Insanity*, can be found to have periods of tedium.

Conservation/Legislative Update

Column Coordinators: Becky Richendollar, North Carolina Zoo
and Greg McKinney, Philadelphia PA

This month's column was put together by
column co-coordinator Becky Richendollar



Harassing Zoo Animals Could Be Criminal Offense - Following a serious, recent break-in at a zoo in New Mexico, state officials want to make harassing zoo animals a crime.

In 2010 several college students broke in to the giraffe, rhino, and sea lion exhibits at the Rio Grande Zoo. The students then posted pictures of themselves in the exhibits on Facebook. While the perpetrators were caught and charged with trespassing (receiving a sentence of 100 hours of community service), state representative Al Park wants to make sure that future incidents come with possible jail time.

Park has introduced a bill to the New Mexico legislature that would make harassing zoo animals a misdemeanor. Those punished for the crime could face up to \$500 in fines and six months in jail. While it is unclear if the bill will pass, zoo officials support the measure. Zoo director Rick Janser said, "This bill just adds another layer. Even though it's just a petty misdemeanor, it's still something we can use in court." *Source: krqe.com, 1/21/11*

Polar Bear Swims 426 Miles - Scientists report that a polar bear in Alaska swam 426 miles before finding a piece of ice to haul out on. The bear had been outfitted with a GPS collar and had a temperature recording device implanted under her skin before the journey. While this is not the first example of polar bears travelling for hundreds of miles to find land, her location and temperature data is the most comprehensive that scientists have to date. The bear lost over 100 lbs. during her ordeal, which took her nine days. Her yearling calf that began the journey with her did not survive the long swim. Scientists expect to continue to see this trend as polar ice shrinks. *Source: LA Times, 1/29/11*



Polar Bear at sea.

(Photo: www.Greenpeace.org)

Hybrid Bear a Sign for Scientists - Last year an Inuit hunter killed what turned out to be a hybrid polar and grizzly bear. This is only the second time such an animal (called a "Grolar Bear" by some) has been found in the wild. The latest bear shot, however, leads scientists to believe the hybridization problem is more widespread than originally thought. Tests show that the individual shot was actually a second generation hybrid, whose mother was also a "grolar bear".

Scientists believe that warmer temperatures as a result of climate change are driving grizzly bears further north. At the same time, polar bears that normally hunt on sea ice are being forced to stay on land to hunt throughout the year. The two bear species are now encountering one another as they each adapt to climate change. The bear shot last year had the polar bear's white hair but had a large head, brown paws, and longer claws which are usually associated with the grizzly bear. *Source: Scientific American, May 24, 2010*



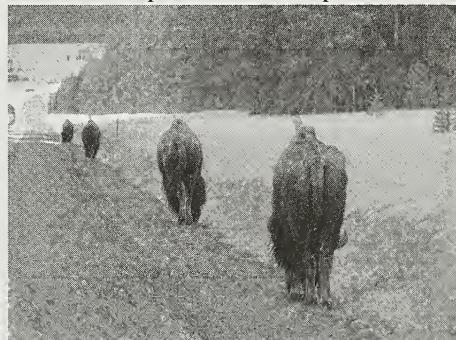
Grolar Bear Hybrid

(Photo: Canwest News Service)

Study Links Yellowstone Bison to Genetic Flaw - A new study published by biochemist Thomas Pringle found that bison (*Bison bison*) in the Yellowstone region share a flaw in their DNA. The animals carry a genetic mutation that affects cellular metabolism which makes the animals lethargic, the research shows. This leads to the bison having difficulty foraging and travelling in areas of heavy snow. The study also showed that this lethargy makes the bison less able to fend off predators and compete for mates.

This news has come to light just as the National Park Service prepares to cull up to 1,600 bison from the Yellowstone area. As the bison have had to search for food, they have strayed from Yellowstone in to the nearby grazing areas in Montana. Government officials fear that the bison will carry Brucellosis, a bacterial infection, to domestic cattle. The disease causes cattle to miscarry.

Environmental groups are using this latest research to fight the cull, saying that Yellowstone's bison herd will suffer because of the struggles they face with the genetic mutation. For now the federal government has placed the cull on hold while the two sides argue the fate of the bison in court. *Source: ENN, February 8, 2011*



Bison in Yellowstone
Photo: Ralph Maughan

Shell Halts Plan to Drill in Polar Bear Habitat - Polar bears and other Arctic species have been given a reprieve by Royal Dutch Shell, who announced that they will not drill in polar bear habitat in Alaska. Shell's drilling plans off the coast of the Arctic National Wildlife Refuge have long been opposed by conservationists and native communities along the Alaska coast.

"The polar bear and other wildlife of Alaska's Arctic, as well as the local communities that depend upon a healthy ocean, were granted a well-deserved reprieve today," said Brendan Cummings, senior counsel at the Center for Biological Diversity. "Now, the Department of the Interior needs to turn that short-term reprieve into permanent protection of America's Arctic."

This marks the third time that Shell's plans to drill in the Beaufort Sea have been put on hold in recent years. Drilling in 2007 and subsequent years was stopped by a federal court, which overturned the Interior Department's approval of Shell's exploration plan due to poor environmental review. Plans to drill in 2010 were suspended by Interior following the Deepwater Horizon disaster in the Gulf of Mexico. Shell's 2011 plan were put in doubt by an Environmental Protection Agency appeals-board decision overturning a necessary air permit, as well as the recent designation of polar bear critical habitat in the drilling area. Oil development in the Arctic remains a dangerous proposition because no technologies exist to clean up oil spills in icy waters.

"Rather than revisiting the decision year after year on whether Shell and others can drill in the Arctic, the Department of the Interior needs to acknowledge the reality that it is impossible to clean up an oil spill in the Arctic, and simply pull this region off the table permanently for oil development," said Cummings. *Source: Center for Biological Diversity, February 3, 2011*

Center for Biological Diversity: "Obama gets a C-" - In a "report card" released early this year, the Center for Biological Diversity gave President Obama a grade of "C-" for his two year environmental record. The report card looks at policies on endangered species, climate, energy, public lands, and oceans.

"Barak Obama is no George Bush, but he's no Theodore Roosevelt either," said Kierán Suckling, executive director of the Center. "His environment record is pretty dismal, considering all the promised hope and change."

Among Obama's positives were a declaration under the Clean Air Act that greenhouse gases endanger public health and welfare, the designation of 120 million acres of protected "critical habitat" for polar bears and the reinstatement of protection for millions of acres of roadless lands. Negatives include a continuation of damaging Bush-era policies on polar bears and offshore oil drilling, stripping of federal protection for and killing of endangered wolves, and his failure to lead either Congress or other nations toward strong global warming policies.

"Obama's record on endangered species is particularly bad," said Suckling. Obama has protected just eight species under the Endangered Species Act, while relegating 254 to the unprotected "candidate" list. His protection rate is slightly better than that of George W. Bush and much worse than those of Bill Clinton and George Bush Sr. *Source: Center for Biological Diversity, January 21, 2011*

Endangered Mexican Wolves Released - In January of this year, the U.S. Fish and Wildlife Service released two Mexican gray wolves (*Canis lupus baileyi*) into the wild. The wolves had been captured as pups in 2007. This marks the first release of Mexican wolves in two years.

A census conducted by state and federal agencies showed that the Mexican gray wolf population in New Mexico and Arizona has increased to 50 individuals, up from 42 wolves a year ago.



Mexican Red Wolf
(Photo: Arizona Fish and Game Dept.)

Between 1998 and 2007 the wolf population was depleted. Federal agents shot 11 of the animals and 18 additional wolves died during capture. In 2007 Governor Bill Richardson put a stop to the wolf removals. It was also discovered that year that a ranch hand was baiting wolves with a pregnant cow near their den to force the government to cull the wolves.

No wolves have been removed from the wild since 2007. That, along with the slow release of a few animals, is helping the population bounce back. *Source: Center for Biological Diversity, February 2, 2011*

Edinburgh Zoo Culls More Red River Hogs - A few months after culling Red River Hog (*Potamochoerus porcus*) piglets, the Edinburgh Zoo is looking to euthanize three more of the young animals. The three Red River Hogs - triplets named Ellis, Nelson, and Moses – are surplus animals.

The European Species Programme (EEP) is in charge of coordinating breeding throughout many European zoos. If an animal is born without a recommendation, the EEP suggests that the animals are culled rather than relocated. A spokeswoman for the Edinburgh zoo explained that the EEP regulations have to be adhered to. She said, "it is imperative that the Royal Zoological Society of Scotland complies with the recommendations that are given. "The welfare of our animals is extremely important to us and while we cannot replace their habitat in the wild, we can ensure the animals in our collection lead as natural a life as possible. For this reason, we do not prevent our Red River Hogs from breeding in the zoo."



Red River Hog pair Hamish and Bell at the Edinburgh Zoo. (Photo: Kez Dowling)

Red River Hogs Hamish and Bella bred for the second time in June last year, a few months after the first babies were culled. *Source: stv.tv, February 3, 2011*

Mt. Kenya's Elephant Underpass - Early this year the first African elephants (*Loxodonta Africana*) could be seen crossing under a major highway in Kenya through a man-made tunnel. The \$250,000 tunnel is the first in Africa and will connect two populations of elephants that had been divided by the busy road. Beyond the tunnel, a nine mile fenced-in area provides a complete corridor for the elephants, allowing the 2,000 elephants living in Mt. Kenya's highlands access to the 5,000 elephants living below in the forests and plains. The entire corridor cost \$1 million.



Elephant cross under a major Kenyan highway using a man-made tunnel. (Photo: Jason Straziuso/AP)

Iain Douglas-Hamilton, founder of Save the Elephants said, "All over Africa this incredible wildlife is increasingly being fragmented by the growing human population, and if African wildlife is to survive, solutions must be found of this nature, where connectivity is preserved through corridors."

The tunnel, which is 15 feet high, was baited with hay and dung to make the elephants feel more comfortable crossing through for the first time. Environmental groups were unsure if the animals would feel comfortable using a man-made structure, but have been pleased with the tunnel's success so far. Source: AP, 1/28/11

Milestones

Species-saving Kakapo Dies at Age of 80 - Richard Henry, a key member of a species of fat, flightless birds called kakapo (*Strigops habroptilus*), died at the ripe old age of 80. He had been credited with a significant contribution towards saving the entire species, after it was nearly made extinct by invading stoats, rats and cats.

The kakapo is a member of the parrot family, and is native to New Zealand. Its unique among parrots in that it's flightless, nocturnal, and herbivorous. It's also the heaviest member of the parrot family, leading it to be described memorably as the "world's largest, fattest and least-able-to-fly parrot" by Douglas Adams when he visited a population of kakapo for a BBC Radio 4 documentary.

The kakapo is thought to be one of the world's longest-living birds, which caused problems when the islands it lives on were colonised by Polynesians and Europeans. The population of the birds crashed swiftly, and they were almost wiped out. *Ad-hoc* conservation of the species began in 1890 by the original Richard Henry, but it wasn't until a formally-defined Kakapo Recovery Plan was begun in 1989 that the species' numbers began to recover.

Richard Henry was discovered in 1975, when it was thought that the kakapo may have already become extinct, and was swiftly moved to Maud Island, which only conservationists and scientists are permitted to access. When a group of other kakapo, including females, were discovered on Stewart Island in 1977, they were also moved to Maud Island, and Richard Henry offered some crucial biodiversity to the small population.

"Richard Henry was a living link to the early days of kakapo recovery, and perhaps even to a time before stoats when kakapo could boom unmolested in Fiordland," said Ron Moorhouse, the head of New Zealand's kakapo protection program.

Richard Henry's death marks the end of an era in kakapo conservation, and also represents the first time that a kakapo has been known to have died of natural causes. His legacy remains, however.

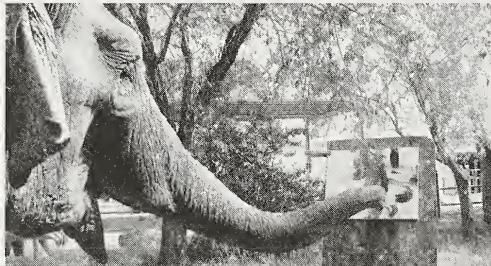


Richard Henry, the Kakapo
(Photo: Wired.co.uk)

During the 2008-09 breeding season, the numbers of Kakapo rose above 100 for the first time since monitoring began, and by February 2010 were at 122. *Source: WIRED.CO.UK, Duncan Geere, January 13, 2011*

Oldest Elephant in North America Dies at 71 - Taj, an Asian elephant who could hold a paintbrush to create art on canvas, has died at age 71, her keepers announced.

"As the oldest elephant in North America, we mourn the loss of this gentle soul who touched millions, but we also celebrate an extraordinary life," Six Flags Discovery Kingdom theme park in Vallejo, CA, posted on its Facebook page.



Taj learned to paint at Six Flags Discovery Adventure. *(Photo: Courtesy of Six Flags Discovery Adventure)*

Taj far exceeded the average life expectancy of 44.8 years for her species, park spokeswoman Nancy Chan told the *San Jose Mercury News*. Taj lived at the park for 33 years. Before her retirement three years ago, the former Circus Vargas performer entertained crowds by stacking logs and playing tug of war with visitors, according to the *Mercury News*. Late in life she learned how to paint. Her abstract creations were auctioned for charity, *The Daily Mail* reported.

The park's senior elephant trainer, Nick Way, told the local newspaper the *Times-Herald* that Taj "is the kind of unique soul you hope to be lucky enough to encounter once in your lifetime."

"Words cannot describe how our entire staff is feeling, in particular the elephant trainers who worked with her every day for years," said park President Dale Kaetzel.

"Taj was special," said her trainer Way, "one of the sweetest elephants you'll ever meet in your life. She'll be infinitely missed." *Source: NYDailyNews.com and CNN.com 1/19/2011*



Taj celebrates a birthday at Six Flags.
(Photo: Courtesy of Six Flags Discovery Adventure)

China's Presence in Africa Blamed for New Threat to Rhino - A devastating upswing in rhino poaching by criminal syndicates armed with helicopters, night vision goggles and silenced rifles is threatening to roll back more than three decades of conservation work that brought the species back from the brink of extinction. Figures released by World Wildlife Fund show that the number of rhinos shot dead in South Africa increased by 173% last year, a trend that has seen poaching reach a 15-year high across the continent.

Although South Africa allows for limited legal hunting of white rhinos (*Ceratotherium simum*), national park officials say 333 rhinos were illegally killed last year including 10 critically endangered black rhinos (*Diceros bicornis*). The yearly total is the highest ever in the country and nearly triple that of 2009 when 122 rhinos were killed.

Park wardens and conservationists are also battling a similar rise in poaching in Kenya, Tanzania and Zimbabwe where gangs are using increasingly sophisticated weaponry to hunt their quarry. Namibia is the only country with a significant rhino population to report no marked increase in rhino killings. The poaching is fuelled by a demand for rhino horn in the Far East and is magnified by China's growing presence in Africa as it rushes to secure the continent's mineral wealth. Traditionally, horns were sought for dagger handles in Yemen and as a "cure" for various fever illnesses in traditional Chinese medicine. In recent years, though, organized crime networks, primarily in Vietnam and China, have been touting powdered rhino horn as a treatment for cancer even though no medical evidence exists to support the suggestion. The high prices paid for the horns makes poaching a lucrative business, and park rangers struggle to confront an increasingly well-armed enemy. *Source: www.independent.co.uk January 14, 2011*

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